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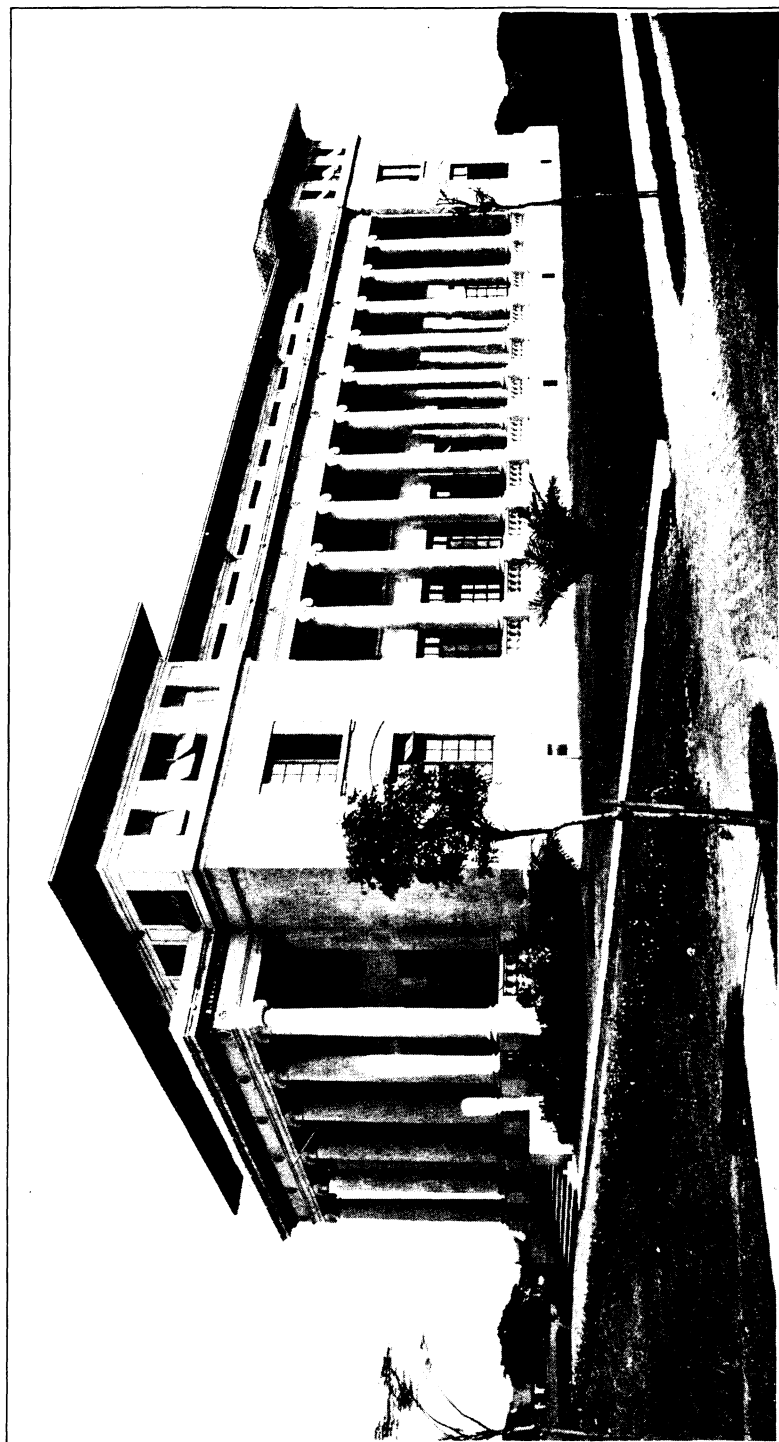
**Fifth Annual Report of the
President of the University
of the Philippines**

Manila, December 15, 1916



MANILA
BUREAU OF PRINTING
1916

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President of the University
of the Philippines*

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LETTER OF TRANSMITTAL.

MANILA, *December 15, 1916.*

GENTLEMEN: I have the honor to submit herewith the fifth annual report of the President of the University of the Philippines for the academic year 1915-1916.

Very respectfully,

IGNACIO VILLAMOR,
President, University of the Philippines.

The Honorable

The BOARD OF REGENTS,

UNIVERSITY OF THE PHILIPPINES,

Manila, P. I.

FIFTH ANNUAL REPORT OF THE PRESIDENT OF THE UNIVERSITY OF THE PHILIPPINES.

The academic year began July 1, 1915, and ended on commencement day, April 4, 1916.

During this period the Board of Regents held ten meetings, six of which were presided over by Chairman Martin, and four by Regent Palma.

On October 27, 1915, the Honorable Mariano P. Leuterio became an ex officio member of the Board upon his designation by Speaker Osmeña as chairman of the Committee on Public Instruction in the Philippine Assembly, to succeed the Honorable Pedro Guevara.

Among other noteworthy events in the University during this period, should be mentioned the oratorical contest of the College of Law, the exhibit of the College of Liberal Arts at the inauguration of the Freer Chemical Laboratory, and the expositions of the Colleges of Agriculture and Veterinary Science. The ceremonies leading to the induction of the President into office on August 12, 1915, and the commencement exercises are also worthy of special mention. The first, because of the presence of the Governor-General of the Philippine Islands, Honorable Francis Burton Harrison; the Secretary of Public Instruction, Honorable Henderson S. Martin; and the then Resident Commissioner, Honorable Manuel L. Quezon, all of whom gave importance to the occasion by delivering masterly addresses in which they advocated the inculcation of lofty ideals; the second, because of the participation of the Secretary of Public Instruction, who, in delivering the commencement address, distinctly stated that the mission of the University is to become and to remain the intellectual leader of the Filipino people and to take unquestioned prominence in the intellectual affairs of this country.

I wish to avail myself of this opportunity to express my gratitude to the higher authorities above mentioned for the favorable remarks they made on my services to the Government previous to my appointment as President of the University, and to assure them that their good wishes will serve as a powerful stimulus in the fulfillment of the duties attached to this position.

I also wish to express to the members of the Board of Regents my gratitude for their earnest coöperation in the management of the affairs of the University. I am greatly pleased to indicate my high appreciation to the deans and to the members of the different faculties for their interest in promoting greater efficiency in teaching, as well as for the decided support and loyal coöperation they have rendered me in all matters involving the advancement of this institution.

During the past academic year, in spite of the many difficulties we have encountered owing to lack of personnel and sufficient laboratory supplies, the University has attained satisfactory results.

For the sake of clearness, I will discuss in this report the following subjects: (1) The financial condition of the University; (2) the functions of the various colleges; (3) University professors; and (4) the student body of the University.

Accompanying this report is submitted as an appendix a monograph entitled "The Japanese Educational Development," prepared by the undersigned as a result of the study made last May of the Japanese universities in compliance with the resolution of the Board of April 12, 1916.

FINANCIAL STATEMENT OF THE UNIVERSITY FOR THE ACADEMIC YEAR 1915-16.

The following financial statement submitted by the secretary of the University shows the receipts and expenditures during the year ended December 31, 1915, and the balance at the close of the year:

	Debit.	Credit.
Balance brought forward from 1914.....		P127,762.56
Appropriation, Act No. 2431.....		
Fees	P24,467.20	
Miscellaneous	13,899.99	
Sale of fixed assets.....	344.56	
Donations	583.50	
Production account.....	2,654.50	
		41,949.75

EXPENDITURES.

Land	P3,770.15
Buildings	34,506.54
Road and bridges.....	2,179.49
Equipment:	
Motor vehicles.....	2,038.79
Land transportation equipment.....	(117.17)
Industrial machinery and implements.....	1,071.23
Hand tools.....	2.49
Books	3,601.45
Furniture	6,449.89
Miscellaneous equipment.....	20,398.45
Scientific exhibits.....	80.00
Capital value of fixed assets sold.....	344.26
	33,869.39

EXPENDITURES—Continued.

	Debit.	Credit.
Salaries	P478,712.16	
Wages	41,195.83	
Traveling expenses of personnel.....	12,835.57	
Rental of buildings.....	1,806.43	
Freight and delivery charges.....	1,121.66	
Printing and binding.....	4,257.06	
Postal, telegraph, telephone and cable service.....	3,514.17	
Contingent service.....	3,143.90	
Supplies and materials.....	43,190.91	
Gratuities (scholarships and fellowships).....	14,793.86	
Illumination and power service.....	5,918.95	
Maintenance and repairs of:		
Buildings	7,792.57	
Equipment	2,405.57	
		10,198.14
Extraordinary charges.....		2,213.82
Transfers to Buildings, University of the Philippines, Act No. 2494 (Freer Chemical Laboratory).....	24,523.29	
Total expenses.....	716,751.32	
Balance, December 31, 1915		62,960.99
Cash:		
In Treasury.....	P128,629.48	
With disbursing officers.....	6,505.82	
		135,135.30
Accounts receivable.....		3,513.38
Total liquid assets.....		138,648.68
Accounts payable:		
Miscellaneous	1,661.87	
Students' guaranty fund.....	7,385.06	
Students' trust fund.....	23.50	
Deferred income.....	6,470.78	
Accrued leave payable.....	70,146.48	
Total liabilities (deduct).....		85,637.69
		52,960.99
	769,712.31	P769,712.31

Attention is especially invited to the fact that the income of the University has not been used entirely to pay its operating expenses, but that a considerable portion of it has been used to increase the permanent plant of the University—P33,869.39 having been spent in the purchase and construction of equipment and P64,979.47 for permanent improvements, principally for buildings.

Of the latter amount, P24,523.29 was used for the completion of the Freer Chemical Laboratory. The Legislature appropriated P30,000 for this laboratory by Act No. 2494, and the Board of Regents authorized the additional expenditure of P25,000 from the appropriation of the University. On December 31, 1915, the P30,000 appropriated by the Legislature had been exhausted and P24,523.29 paid from University funds. In addition, P11,965.90 was spent by the University for the installation of shelving, sinks, lockers, and other fixtures. The building was completed and was in use at the end of the year, and only a few small charges remained to be rendered. The expenditures for permanent improvements also include P15,117.19

for the physics laboratory of the College of Engineering, for which the Board of Regents had appropriated a total of ₱35,000.

Of the balance of ₱52,960.99 shown at the close of the year, ₱50,297.11 was carried forward to the credit of the following accounts to cover outstanding requisitions and orders, up to December 31, 1915, leaving ₱2,663.88 available for appropriation for 1916:

College of Agriculture:		
Buildings and improvements, seed and harvest laboratory.....	₱10,000.00	
Furniture and office equipment.....	62.00	
Tools, machinery, scientific instrument, and miscellaneous equipment ..	2,639.50	
Contingent service	50.00	
Supplies and materials.....	4,063.50	
		₱16,815.00
College of Engineering:		
Buildings and improvements, physics laboratory	14,882.81	
Books	350.00	
Tools, machinery, etc.....	1,126.00	
Supplies and materials.....	1.50	
		16,360.31
General Office:		
Buildings and improvements, fence.....	450.00	
Books	27.60	
Furniture and office equipment.....	18.87	
Tools, machinery, etc.....	25.00	
Supplies and materials.....	40.00	
		561.47
College of Law:		
Books	758.90	
Contingent service	5.00	
Maintenance and repair.....	16.00	
Supplies and materials.....	4.00	
		783.90
College of Liberal Arts:		
Buildings and improvements—		
Equipment of Freer Chemical Laboratory.....	403.05	
Installation of pivots in Freer Chemical Laboratory	500.00	
Books	345.00	
Tools, machinery, etc.....	775.00	
Supplies and materials.....	7,028.00	
		9,051.05
College of Medicine and Surgery:		
Buildings and improvements.....	201.87	
Books	192.00	
Tools, machinery, etc.....	2,534.10	
Supplies and materials.....	3,229.70	
		6,157.67
College of Veterinary Science:		
Tools, machinery, etc.....	16.50	
Supplies and materials.....	74.50	
		91.00
Construction of Freer Chemical Laboratory.....	476.71	
Grand total		50,297.11

The total value of the real estate and nonexpendable equipment of the University on December 31, 1915, is as follows:

Fixed assets owned by the University on December 31, 1915.

Land	₱223,903.44
Buildings	452,785.85
Irrigation system	28,818.82
Roads and bridges	2,887.69
Motor vehicles	2,038.79

Fixed assets owned by the University on December 31, 1915—Continued.

Land transportation equipment.....	P8,248.55
Industrial machinery and implements.....	11,797.18
Hand tools	2,021.38
Books	29,806.34
Furniture and office equipment.....	75,445.52
Scientific instruments and miscellaneous equipment.....	198,858.90
Collections and exhibits.....	80.00
Total	1,031,692.46

The amount of funds available for appropriation by the Board of Regents in 1916 is as follows:

Unappropriated balance from 1915.....	P2,663.88
Contribution by the Legislature, Act No. 2540.....	725,000.00
Appropriation by the Legislature, Act No. 2623, for the Conservatory of Music.....	10,000.00
Receipts, estimated	43,000.00
Total	780,663.80

Of this amount the following appropriations had been made to date of May 31, 1916.

Appropriations by the Board of Regents for 1916. May 31, 1916.

	Salaries and wages.	Contingent service.	Acquisition of fixed assets.	Total.
College of Agriculture	P114,835.00	P23,450.00	P10,800.00	P149,085.00
College of Engineering.....	57,210.00	5,300.00	15,000.00	77,510.00
School of Fine Arts	21,680.00	1,660.00	3,680.00	27,020.00
General Office	40,164.00	29,550.00	1,000.00	70,714.00
College of Law	36,790.00	1,200.00	1,854.00	39,844.00
College of Liberal Arts.....	126,139.00	9,420.00	7,340.00	142,899.00
College of Medicine and Surgery.....	191,730.00	25,580.00	10,000.00	227,310.00
College of Veterinary Science.....	22,685.00	7,880.00	600.00	31,165.00
Total	611,233.00	104,040.00	50,274.00	765,547.00
Conservatory of Music (appropriation not classified)				10,000.00
Total				775,547.00

The following statement indicates the number of volumes and the value of the books of the University up to December 31, 1915:

	Volumes.	Total value.
College of Engineering.....	175	P973.82
School of Fine Arts	20	254.62
General office and College of Liberal Arts.....	1,266	5,060.37
College of Law	1,708	12,813.39
College of Medicine and Surgery.....	10	215.93
College of Veterinary Science.....	151	1,626.99
College of Agriculture	1,444	8,871.72
Total	4,774	29,806.34
Scientific books transferred to the Bureau of Science without cost up to Dec. 31, 1915, from—		
College of Engineering.....	564	3,646.63
College of Liberal Arts.....	1,796	15,691.16
College of Medicine and Surgery.....	867	6,136.90
Total	3,227	25,474.69
Grand total	8,001	55,281.03

COLLEGE OF MEDICINE AND SURGERY.

The work of the college has been carried forward in a satisfactory manner and advancement has been made along certain lines.

THE GRADUATE SCHOOL OF TROPICAL MEDICINE AND PUBLIC HEALTH.

The school is now well organized and is giving courses that are not anywhere surpassed, leading to the degrees of doctor of tropical medicine and doctor of public health. The number of students in the school has been small, but it never has been our policy to attempt to measure the efficiency of this school by the number of people graduating from it. It is recognized, and it is intended, to be a school leading to higher degrees, which are won by extended research work and which have a distinguished value.

SCHOOL OF PHARMACY.

The organization and work of this school have been perfected during the year, the opportunities for practical work in the Philippine General Hospital have been made more attractive, and in every way its resources have been enlarged. The teaching force is hardly adequate to give the theoretical and practical instruction that graduates of this profession should have, and every effort is being made, and should be made, to remove this defect.

The department gives instruction not only to the students in pharmacy, but also to the students of medicine, veterinary science, and nursing of the Philippine General Hospital.

Teaching continues throughout the entire year, and during the past summer instruction was given to the probationers of the School of Nursing of the Philippine General Hospital.

It is gratifying to state that the graduates of the years 1913-14 and 1914-15 successfully passed the examination given by the Board of Pharmaceutical Examiners in July, 1914, and July, 1915, respectively.

SCHOOL OF DENTISTRY.

This school has been put upon a definite basis, plans have been perfected for its development, and in its present growth it gives promise of being a successful practical institution within the near future. One of the greatest needs existing in the Philippine Islands is for a large number of well-trained dentists, as it is undoubtedly true that physical progress among the people of

this country is delayed as much by bad dental hygiene as by any other factor.

The faculty organization, being closely interwoven with that of the medical and pharmaceutical departments, leaves nothing to be desired or altered. Up to the present time, there is one professor engaged in active teaching under the plans and methods adopted by the National Institute of Dental Pedagogics and the National School of Dental Technics, both of the United States.

SCHOOL OF NURSING AND MIDWIFERY.

By Act of the Legislature, the education of nurses and midwives has been placed under University control in certain of its phases. The authority contained in the law gives the University control over the academic instruction of nurses, and arrangements have been perfected by which the certificates of graduate in nursing and in midwifery are awarded by the University of the Philippines.

Like all the other schools of the College of Medicine and Surgery, the organization of this department is clear, specific, and definite. The courses of instruction and practical work are outlined and carried out with the same thoroughness and accuracy as they are in other schools controlled by the University. The fundamental subjects of anatomy, pathology, physiology, etc., in this school are taught by the same men who are teaching these subjects to the medical students. The more practical subjects of nursing are taught by selected supervisors and teachers, all, of course, being under the immediate control of the principal of the school, who, in turn, is presiding officer of the faculty.

Other departments of the college, including that of administration and city morgue, anatomy, physiology, pathology, medical zoölogy, medicine, surgery, ophthalmology, otology, rhinology and laryngology, obstetrics, pediatrics, and hygiene are definitely organized and they are all discharging their proper functions with as much efficiency as is consistent with a limited personnel and finances.

CITY MORGUE.

This office is charged with the responsibility for the receipt and proper disposition of all dead bodies received at the city morgue, which is located in the college buildings and for their proper care and keeping during the time they remain there. The morgue is kept open day and night in order that relatives and friends may properly identify and visit the remains. Under recent arrangements, all persons buried by the city are properly prepared and placed in coffins by officials of the city morgue.

Then they are delivered to the contractor for transfer to the Cementerio del Norte where interment is made. Daily morning reports are furnished to the Philippine Health Service covering all transactions of the city morgue during the twenty four hours ending at 8 a. m.

During the past year 1,042 bodies were received at the city morgue, 315 of which were buried as paupers and 515 by private undertakers. Authorization was secured for the transfer of 100 adult cadavers to the school for scientific purposes. Of this number, 2 were claimed by the relatives for private burial; 11 were transferred to Santo Tomas University; 39 were used for scientific purposes by this college and buried; and the balance of 48 were transferred to the dissecting room or are now in the museum. In addition to the above, the cadavers of 112 youths were transferred to the department of anatomy and museum; 87 of these have been buried and the balance of 25 are still available for scientific purposes.

The 1,042 bodies received at this morgue during the above period came from the following sources:

Philippine General Hospital.....	677
Hospital de San Juan de Dios.....	16
St. Joseph's Hospital.....	40
Mary Chiles Christian Hospital.....	11
St. Luke's Hospital.....	17
Mary Johnston Hospital.....	48
Hospital de San José.....	47
Bilibid Hospital	61
San Juan del Monte Hospital.....	2
Outside cases (from houses, streets, etc.).....	122
San Lazaro Hospital.....	1
Total	1,042

DEPARTMENT OF ANATOMY.

The department now offers five courses of instruction for the undergraduate students—systematic anatomy, histology, and embryology in the first year, and neurology and topographical anatomy in the first semester of the second year.

The cadaver supply is now ample to furnish laboratory material for a class of 80 or 90 students. During the last year 207 cadavers were transferred to the department; 98 of this number were adults, and 109, babies and children. Fifty-six were made up into skeletons, of which 22 were adults and 34 were children. It might be well to mention that these skeletons represent a large saving in expense to the department, the adult skeletons

being worth from ₱50 to ₱80 apiece, and the smaller ones relatively less. A conservative estimate as to the amount saved by preparing these skeletons in the department is about ₱2,000. The preparation of these skeletons represents a great deal of painstaking care and hard work, to say nothing of the disagreeableness of the task.

Dissecting under any condition is not at all an attractive subject. However, to make it as pleasant as possible, all the dissecting tables and bookstands have been painted white to give this branch of study a more attractive and cheerful atmosphere. It is the policy of the department to create in the student a sense of responsibility—to develop his power of observation, and, above all, to teach him to solve his problems in a systematic, accurate, and careful manner.

The present methods of teaching students are modeled after the plans employed by the best universities and colleges in the United States.

During the past year one article was published in *The Philippine Journal of Science* (Vol. XI, No. III, Sec. B.); "On the development of twins and other polyembryos," with special reference to four sets of duck twins, by Edward S. Ruth.

DEPARTMENT OF PHYSIOLOGY.

By action of the Board of Regents on May 5, 1915, the chief of the department of physiology was made acting chief of the department of pharmacology, and the teaching staff and apparatus of the department of pharmacology were temporarily transferred to the department of physiology. This arrangement has been in effect for over one year, and has resulted in a considerable economy in laboratory space and apparatus. There has been no impairment of the quality of instruction in either department.

The organization and methods of teaching remain essentially unchanged. The courses given are the equivalent of those given in the best medical schools in the United States, and an attempt will be made to keep the standards of instruction high, in spite of the fact that the departments have suffered severely by the resignation of Doctors Bulatao and Garcia, who were very efficient assistants. Necessarily, the research work which has been steadily carried on in these departments must in large measure be sacrificed because of the increased time which the staff must devote to teaching in addition to the administrative work of the college.

PUBLICATIONS.

The following papers have been completed by the members of the staff of the departments of physiology and pharmacology during the year 1915-1916:

- An experimental study on the use of apomorphine to remove foreign bodies from the respiratory passages: Daniel de la Paz and Faustino Garcia. Philippine Journal of Science, Sec. B, Vol. XI, No. 1.
- Blood pressure picture in Filipinos: Isabelo Concepción and Emilio Bulatao; *ibid*; Vol. XI, No. 3.
- The influence of fresh and autoclaved cow's milk on the development of neuritis in animals: R. B. Gibson and Isabelo Concepción, *ibid.*, Vol. XI, No. 3.

DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY.

During the year a more intimate association has been established between the departments of pathology in the University and the Philippine General Hospital. The professor of pathology, Doctor Crowell, has been designated chief of the department of pathology in the hospital, and assistant Professor Hilario has been detailed for part time work as chief of the clinical laboratory division. In this division, aside from the chief, there are three professional assistants, paid by the hospital. This arrangement makes all of the clinical laboratory material of the hospital and its dispensaries available for teaching purposes, an advantage of inestimable value. It also furnishes additional interest in this class of work, thus involving direct benefit to the patients by stimulating accuracy of work.

Teaching work during the past year has been carried on in pathology for third, fourth, and fifth year medical students; third-year veterinary students; and nurses. Bacteriology has been taught to second-year medical students, third-year veterinary students, and third-year pharmacy students. Graduate instruction in pathology and bacteriology has also been furnished to students in the Graduate School of Tropical Medicine and Public Health. This entails over one thousand two hundred hours of work a year in the department.

Autopsies.—Six hundred fifty-seven autopsies were performed by the members of the department. These were derived from the following sources:

Philippine General Hospital.....	405
San Lazaro Hospital.....	105
Bilibid Prison Hospital.....	15
Other hospitals, residences, etc., sent in by medical inspectors, etc.....	132

Of these, 113 were performed from the medico-legal point of view, for the prosecuting attorney's office.

Four hundred ninety-nine surgical pathology specimens were examined and reported.

Research.—The following topics have been, or now are, the object of research by different members of the department: (1) Mycetoma, (2) splenomegaly, (3) nonparasitic liver cysts, (4) femoral aneurysms, (5) balantidiasis, (6) human infestation with *Dipylidium caninum*, (7) pathologic investigation of causes of death in 1,000 Filipino infants from birth to 5 years, (8) condition of peripheral nerves as regards degeneration at autopsy, (9) case of chloroma, (10) spirochaetosis, (11) entamoebiasis and intestinal spirillosis, (12) experimental hypernephroma in the rabbit, (13) serologic study of syphilis in Manila, and (14) the Widal reaction in typhoid fever.

PUBLICATIONS.

1. Pathologic Anatomy of Bubonic Plague, by B. C. Crowell, Philippine Journal of Science, Sec. B (1915), 10, 249, July.
2. Autopsy Technique and Protocol Writing, by B. C. Crowell, Manila. Imp. de G. A. Pobre. 1916. A text for guidance of students in this department.
3. Tuberculosis and its Control, by B. C. Crowell. Anti-tuberculosis Bulletin, Manila, April, 1916.
4. Castration exerts no influence upon the growth of transplanted or spontaneous tumors in mice and rats, by José S. Hilario. Journal of Experimental Medicine (1915), 22, 158.
5. A contribution to the autopsiotherapy of certain diseases of the skin, by Jose S. Hilario. Journal of Cutaneous Diseases (1914), vol. 32, No. 11.
6. A case of infestation with *Dipylidium Caninum*, by Maria Paz Mendoza-Guazon, Philippine Journal of Science, Sec. B (1916), 11.

In addition to these publications, theses for the degree of doctor of tropical medicine have been prepared by students in this department as follows:

7. The role played by the insects of the dipterous family Phoridae in the spread of bacterial infections. Experiments on *Aphiochaeta ferruginea* Brunetti with the Cholera vibrio, by David N. Roberg. Philippine Journal of Science, Sec. B (1915), 10, 309.
8. A study of the pathology of the gall-bladder and biliary passages in cholera, by J. S. Coulter. Philippine Journal of Science, Sec. B (1915), 10, 385.
9. The anatomico-pathological lesions in Filipino children from 0 to 5 years, by Maria Paz Mendoza-Guazon. (Unpublished.)

DEPARTMENT OF MEDICAL ZOÖLOGY.

To the department of medical zoölogy falls the task of giving instruction in animal parasitology, and of carrying on research and experiments in connection with the animal parasites. To secure the best results, it is essential that instruction be given

and investigations carried out, under the supervision of those who have specialized in the study of the various groups of animals which lead a parasitic life. These specialists are as necessary as are the neurologists, obstetricians, surgeons, and internists who teach their respective specialties under the general heading of medicine, and adequate instruction can be given on no other basis. The staff, therefore, includes a protozoölogist, an entomologist, and a helminthologist. This department, in addition to its study of parasites, deals also with the larger animals of medical interest such as reptiles and fish, and with the coelentera, a phylum hitherto almost wholly neglected by medical schools but which is particularly important in the Tropics.

It is the endeavor of the teaching staff to correlate the work of the department with the clinical and other laboratory work, but at the same time to avoid trespassing upon the fields of other departments. This department is fed by the department of zoölogy of the College of Liberal Arts—that is to say, to a large extent—though students come to the department after having received a preliminary zoölogical training in other institutions. It is the opinion of the teaching staff of this department that no change in methods of instruction or scope of the courses in the College of Liberal Arts, or other institutions giving zoölogical instruction of the same grade, is called for to meet the needs of the College of Medicine and Surgery. But all students should be well grounded in the general principles of morphology, physiology, embryology, classification, and general biology of the principal animal groups. The benefits accruing from this are not by any manner of means restricted to the department of medical zoölogy, but may be felt in the departments of anatomy and physiology as well.

The work of the department of medical zoölogy is closely correlated with certain work in the department of medicine, surgery, pathology, and hygiene, but instruction in the various zoölogical branches stops at the thresholds of these specialties. That is to say, it is without the province of the zoölogist to outline therapeutic or surgical procedures in the treatment of ailments caused by animal parasites, or to go further in the matter of diagnosis than the identification of the parasites and the citation of such familiar physical signs as may be of aid in identifying the parasites. The instructors aim to reach the borderland, but do not go beyond. The same principle applies so far as pathology and hygiene are concerned. Gross or microscopic changes of a pathological nature are only considered as accessory to what there is to be studied in connection with the parasite. In other words, the zoölogist is concerned mainly

with the parasite, and his interest in the patients or hosts is limited to the effects that these hosts may exert on the parasite, and the influence of a change of host in the life cycle of the organism. Prophylactic measures are taken up from the same standpoint, but the student is left to get his detailed instruction in sanitation from the department of hygiene.

The results achieved under the present system of instruction during the past year, as revealed by the work of the students in the various courses, are such as to yield to the staff considerable encouragement to pursue the method farther.

In all, 12 courses are at present offered by the department of medical zoölogy. In the undergraduate school there are courses offered in protozoölogy, entomology, special medical zoölogy, and a course in general zoölogy for students in the School of Pharmacy. In the graduate school, advanced courses are given in protozoölogy, entomology, helminthology, and special medical zoölogy. Research and seminar courses in protozoölogy, entomology, and helminthology are offered to qualified students.

Thus the work of the department falls into three groups which aim to fill the needs and requirements of as many different classes of students. These groups comprise: (1) Distinctly practical courses suited to the every-day requirements of the general practitioner and worker in the clinical laboratory; (2) advanced courses in which the more advanced theoretical and general biological aspects of animal parasitology are presented to graduate students; and (3) research and seminar courses open to students with adequate preliminary training.

Research.—Several lines of investigation into the protozoa are being conducted by Professor Haughwout.

With Professor Crowell of the department of pathology, a study is being made of the etiological significance of certain spirochaetes parasitic in the human intestine. Concurrently with this, observations are being made on the general intestinal fauna of man.

A study of a new trypanosome, and the disease it is believed to cause in the carabao, is being carried on in collaboration with Dean W. H. Boynton of the School of Veterinary Science. The department has also taken a small part in the work of Professor Boynton looking toward the discovery of the cause of rinderpest, but so far the department has been unable to make any headway in the problem.

Professor Haughwout is likewise making a study of the life cycles of certain species of the genus *Balantidium*. The species under consideration are the *Balantidium coli*, of man, *Balantidium falciformis*, of the frog, and a species as yet unnamed,

which has been discovered in the intestine of the fresh-water snail.

A collection of species of *protozoa* indigenous to Manila and the vicinity is being made and already a large number of species have been identified, described, and classified.

PUBLICATIONS.

There is a textbook on "Medical Protozoölogy" in preparation designed especially to meet the needs of medical students in the Philippines, by Professor Haughwout, and he hopes to complete the work within a few months. From time to time, papers will be prepared covering the investigations now in progress.

DEPARTMENT OF MEDICINE.

The functions of the department of medicine may be grouped under three different headings: (1) Teaching, (2) hospital service, and (3) dispensary work.

1. *Teaching*.—Instruction is given in all branches of medicine pertaining to internal medicine. This is further subdivided into the undergraduate and postgraduate teaching. In the undergraduate course, instruction is given to students of third, fourth, and fifth year in medicine, clinical medicine, tropical medicine, clinical conferences; therapeutics and applied therapeutics, medical clinics (ward work), physical diagnosis, and clinical diagnosis. In the postgraduate course, the subjects taught by our department are: medical clinics, tropical therapeutics, tropical etiology, tropical medicine, and research medicine. The above two subgroups embody the teaching work performed by the department of medicine.

2. *Hospital service*.—The department of medicine is in direct charge of the free medical wards, both for male and female, consisting of 62 beds. These wards are used for the exclusive care of patients suffering from diseases entirely under the domain of internal medicine. In these wards the staff and the students are afforded an ample opportunity to study the diseases under their different manifestations, their course, complications, and sequelae.

In this service, as in the outside service, the younger residents are given a rotation service, thus obtaining experience with both female and male patients. From the standpoint of the younger residents there are three services: Male inside service, female inside service, and outside service. In each of these departments, they spend one month, to be transferred to the next department, and so on in rotation. This method has proved satisfactory.

About the middle of the year the supply of assistants was inadequate and the plan could not be followed; but, with the appointment of the new residents, it is the intention of the department to restore the rotation service.

During the year there were 2,001 patients admitted to the medical ward and attended by the department.

3. *Dispensary work*.—This consists in the treatment of the dispensary patients who are not ill enough to be admitted to the hospital. The department has grown so large that it has been divided into several sections, namely, medicine, dermatology, neurology, and tuberculosis.

During the year there were 29,000 patients taken care of, as follows:

General medicine	18,914
Tuberculosis	8,189
Dermatology	1,923
Neurology	33
Total	29,059

PUBLICATIONS.

1. Certain Cardiac Reflex Symptoms—Due to Diseases of Remote organs, by Professor Sison. Report of Tercera Asamblea Regional de Medicina y Farmacia de Filipinas.
2. Clinical observation on Experimental Starvation on human beings. *Ibid.*
3. Purpura Haemorrhagica, by Doctor Domingo. Tercera Asamblea Regional de Médicos y Farmacéuticos de Filipinas.

DEPARTMENT OF SURGERY.

The surgical staff has at least four functions to perform: (1) To teach the medical students and nurses (undergraduates and postgraduates); (2) to treat patients in the hospital and dispensary; (3) to act as medical witnesses in court; (4) to carry out the routine administrative work of the department and to make scientific investigations.

Teaching medical students and nurses (undergraduates and postgraduates).—Instruction was given to the third year class during the second semester, and to the fourth and fifth year class during both semesters, making a total number of 52 medical students.

The courses are arranged in such a way that the students obtain not only a theoretical, but also a practical instruction in surgery. The students are allowed to do minor surgery; they have free access to the wards; they are trained to administer anaesthetics and to act as assistants in the clinics; they prepare their operating material and operate on human cadavers and dogs.

A series of theoretical and practical courses are also given to postgraduate students in the Graduate School of Tropical Medicine and Public Health, covering the following subjects:

Surgical Problems in the Tropics and Tropical Surgical Pathology: Surgical Technique in the Tropics.

Surgical Clinics: Operative Surgery and Research in Surgery.

With regard to the nurses, Doctor Guazon lectured on general surgery to the senior class; Doctor Eduque taught genito-urinary to the male nurses of the same class; and Doctor Santos, minor surgery and bandaging to the juniors. Postgraduate nurses had also an opportunity to do practical work in the clinics.

Treatment of patients in the hospital and dispensary.—The surgical staff of the College of Medicine and Surgery is in charge of the surgical department of the Philippine General Hospital and Dispensary for free patients, and therefore responsible for the treatment of and operations on such patients. The total number of patients treated from July 1, 1915, to June 30, 1916, is as follows:

In the hospital.....	3,337
In the dispensary, one or more visits.....	28,960
	<hr/> 32,297

During the year 40,975 patients received treatment, embracing major and minor operations, anaesthesia, cleanings, dressings, and special examinations, which are distributed as follows:

	Hospital.	Dispensary.	Total.
Regular operations:			
Major	586		586
Minor	724	980	1,704
Emergency operations:			
Major	64		64
Minor	203		203
Anæsthesia:			
General	881		881
Local	318	980	1,298
Cleaning, dressings, and special examinations	13,869	22,470	36,239
Grand total	16,545	24,430	40,975

Medical witnesses in the courts.—By attending to the medico-legal cases that are brought to the hospital, the resident members of the staff are subject to call at any time to act as medical witnesses, when these cases are taken up by the courts; and this procedure very often interferes with the routine work of the department, considering that our men lose so much time in going to and from the courts.

Research.—The following articles were written and read before the medical societies in Manila last year, except one of them which was presented as a thesis for graduation in the

School of Tropical Medicine and Public Health. They are to be published.

1. Ovarian Cysts. By Dr. P. K. Gilman.
2. Surgical Treatment of Uterine Retro-displacements. By Dr. P. Guazon.
3. Observations on the Cases of Inguinal Hernia treated by the Author's method. By Dr. P. Guazon.
4. The Frequency of Retroversion among Filipino Women. By Dr. C. M. Reyes.
5. Treatment of Acute Pelvic Infections. By Dr. A. Vazquez.
6. Blood Pressure in Surgery. By Dr. G. Santos.
7. Amoebic Abscess of the Liver Among Filipinos. By Dr. R. Abriol.
8. A Case of Pregnancy in the Broad Ligament. By Dr. P. Guazon.
9. A modification of Bassini's Operation for the radical treatment of Inguinal Hernia. By Dr. P. Guazon.

The first six articles were read before the Regional Assembly of Physicians and Pharmacists last February. The seventh was presented by Doctor Abriol as his thesis for graduation in tropical medicine last March. The eighth and ninth were read before the Manila Medical Society, last April and May, respectively.

At present, Doctor Guazon is working on "Appendicitis among Filipinos" and on the "Surgical Treatment of Splenomegalies."

It is a matter of regret to report the loss of the services of Doctor Gilman owing to his resignation and departure from the Islands last June.

PUBLICATIONS.

There were three articles published last year:

1. Hemp Fibers as Suture Material, by Dr. P. Guazon. This was read before the Manila Medical Society, December 6, 1915, and published in the bulletin of the same society, January, 1916.
2. Iodine Gauze as a Substitute for Iodoform Gauze, by Dr. P. Guazon. Read and published at the same time as the previous article.
3. Dermoid Tumors of the Mouth, by Dr. P. K. Gilman. Published in Surgery Gynecology and Obstetrics, June, 1916.

DEPARTMENT OF OPHTHALMOLOGY, OTOTOLOGY, RHINOLOGY AND LARYNGOLOGY.

The functions of the eye, ear, nose, and throat department are manifold. Its most important functions are the teaching, the carrying out of the routine clinical and administrative work pertaining to the department, the work in collaboration with other departments of the institution, and the research work.

The department gave the course of instruction to the last fifth-year class as per schedule. The first semester was entirely devoted to general ophthalmology and refraction, giving six hours weekly and making a total of one hundred two hours. The students were given a thorough course in refraction, ophthal-

moscopy, retinoscopy, both in didactic lectures and their practical applications. They were taught how to use the different important instruments such as the ophthalmometer, perimeter, etc. Didactic lectures on general morbid conditions were given hand in hand with the practical demonstration of cases. Discussions of important cases were given in the first semester and the students were made familiar with the symptoms of such dreadful diseases as gonorrheal ophthalmia, trachoma, glaucoma, etc.

During the second semester the course in otology, rhinolaryngology, and accessory sinuses were given, nine hours weekly, making a total of one hundred fifty-three hours during the entire second semester. Both theoretical lectures and practical demonstrations were considered. The students are taught the exact manipulations of instruments used in otoscopy, rhinoscopy, laryngoscopy, and esophagoscopy. Bedside conferences were given and the students were made assistants during the operations. At the beginning of the second semester the students were given opportunity to perform cataract operations, iridectomy, and eviceration upon hog's eyes placed on phantom faces.

Before the second semester closed, the students had an operative course on cadavers in the College of Medicine and Surgery, including plastic operation of the lids, such as correction of entropion, entropion, ptosis, and strabismus and also dacryocystectomy, eviceration, and enucleation.

There were plenty of subjects for refraction. Afternoon clinics, especially devoted to school children of the city of Manila, were held in the free dispensary.

Postgraduate course.—The eye, ear, nose, and throat department gives also the course of instruction to the graduate students in tropical medicine and public health. A limited number of graduate students are assigned in rotation as internes in the department. They are taught the routine work and are made assistants in the operations.

Course to senior class in nursing.—A theoretical and practical course in nursing of the eye, ear, nose, and throat was given to the senior class of the Philippine General Hospital Training School for Nurses. The course consisted of thirty hours and was given in two semesters. The common diseases, as well as the dangerous communicable diseases of the eyes and throat, were thoroughly discussed and much stress was laid on the proper methods of nursing these cases.

Care of hospital and free-dispensary patients.—The next important function of the department is to take care of its patients both in the hospital and in the free dispensary. The routine

examinations, office and ward treatments, operations, keeping of records, and other routine care of patients are rendered to each individual patient. Special services are always given to those cases that require them.

The following table shows the total amount of work done for patients by the department in the hospital from July 1, 1915, to June 30, 1916:

Operations:	
Major	329
Minor	254
Emergency:	
Major	11
Minor	90
Anaesthesia:	
General	193
Local	452
Cleaning and dressing.....	12,156
Total out-patients (physicians and nurses).....	1,544
Total referred cases from other departments.....	795
Grand total	15,824

The work of the dispensary has been greatly increased and more patients were treated during this course. The following table shows the amount of work done in the free dispensary, department of eye, ear, nose, and throat, from July 1, 1915, to June 30, 1916:

Total visits	17,645
First visits (new patients).....	6,221
More than one visit.....	11,452
Minor operations	157
Refractions	289
Dressings	16,590

Out of the 17,645 total number of visits, 3,242 were made by public school children. This increase in the number of school children treated in the free dispensary was due to the previous arrangement made by this department with the Bureau of Education to send the children to the dispensary for examination and treatment, and special clinics, twice a week for school children, were opened by the department. Most of these patients were cases for refraction and our students, therefore, had a great deal of experience in this line of work.

Research work.—The department offers an exceedingly rich opportunity for research work. Important and rare cases are met with from time to time and definite records of observations are kept for research work.

Dr. A. R. Ubaldo has done special work in cataract operations.

He has also been investigating the prevalence of follicular conjunctivitis in school children.

Dr. H. Velarde has investigated conjunctivitis vernalis in the Philippines. He has also worked on the foreign bodies in the eye, ear, nose, throat, and esophagus. His investigations were presented and read before the annual meeting of the Physicians and Pharmacists of the Philippine Islands.

In addition to the above, Doctor Velarde is also collecting valuable material on *Glioma retinae*, which is quite frequently observed among our children, and is also collecting data on the results of mastoid operations in the Philippine General Hospital.

DEPARTMENT OF OBSTETRICS.

The department has six functions to perform: (1) To teach medical students, (2) to teach student nurses, (3) to teach student midwives, (4) to attend to hospital patients, (5) to attend to dispensary patients, (6) to attend to out-patients in their homes.

Activities.—The fourth and fifth-year medical students are given a course of lectures, clinics, demonstrations, and ward visits in the obstetrical ward of the Philippine General Hospital. The course in obstetrics for these students is divided into four: (1) Physiological obstetrics, (2) pathological obstetrics, (3) operative obstetrics, (4) parturition clinic. Physiological obstetrics is given during the first semester of the fourth-year and pathological obstetrics is given to the fifth-year students during the second semester of the same year by Doctor Roxas. Operative obstetrics is given to the fifth-year students during the first semester by Doctor Calderón. These three subjects are given three hours a week, which is equivalent to fifty-one hours a semester. The parturition clinic consists in clinics and ward visits in the maternity ward of the hospital and clinics in the out-patient service, in which the students are required to assist the fifth-year students during the first semester and the fourth-year students during the second semester. The students are divided into groups of two students each, and in this way they are detailed in rotation in the hospital for twenty-four hours. During the past year, as there were but 5 fifth-year students and 22 fourth-year students, each individual was given the opportunity to see or to assist in normal and operative cases every three days for the fifth-year class and every eleven days for the fourth-year class for one semester. The clinics are conducted by the residents and assistants, but the chief of the department and the associate and the assistant professors are all subject to call whenever a very important operation is to

be performed, which all the students, whenever possible, are required to attend.

Course in midwifery.—The course in first-class midwifery opened in April, 1915, and closed at the end of September of the same year. The seven students of this class satisfactorily passed the final examination and received the degree of graduate in midwifery last April from the University. The second-class student midwives, who began their instruction October 1, 1915, finished the course in midwifery about the end of March of this year when they were given certificates by the Philippine General Hospital. The method of instruction adopted for the midwives is planned almost in the same manner as that for the medical students with the exception that the midwives are given other duties to perform for the care of the patients in the maternity ward of the hospital.

School of nursing.—The school of nursing gives the course in obstetrics to the student nurses during the first and second semesters of the second year and during the first semester of the third year. For the first semester of the second year, Doctor Tolentino lectures on the subject of pregnancy and labor, and Doctor Acosta-Sison takes up the subject of labor and puerperium during the second semester. The third-year students are also taught by Doctor Acosta-Sison, who gives a set of lectures on abnormal or pathological obstetrics.

Treatment of patients.—Doctor Tolentino is the senior resident of the department in the hospital and he and Doctors Rustia and Morales, who are also residing in the hospital, are responsible for the care and treatment of the patients there. The chief of the department makes daily visits to the patients in the department with the resident staff, and in this way their work is properly supervised and scrutinized.

Doctors Roxas and Acosta-Sison are in charge of the dispensary work of the department, each devoting one hour a day to the free dispensary of the hospital in such a way that, with the exception of Saturday afternoon, there is one hour of dispensary clinic in the morning and another in the afternoon every day.

As already mentioned above, the resident staff is in charge of the out-patient service. Every outside call is to be answered by a physician and one student, and the patient is to be attended to by them in her home, so far as practicable, in the same manner as they manage labor cases in the hospital.

The only research work conducted by the department is the measuring of maternal pelvis and fetal heads under Doctor Acosta-Sison.

PUBLICATIONS.

The following articles were read during the year:

Doctor Calderon read a paper on "Cesarean Section in the Philippines" before the Third Assembly of Physicians and Pharmacists, February 10, 1916, and before the Manila Medical Society, last May. This article was published in the journal of the Bureau of Science. He also read an article on "Omphalorrhagia of the New-born" before the Manila Medical Society and the Colegio Medico-Farmacaceutico. Not published.

Doctor Rustia read a paper on "Eclampsia—Report of 34 cases," before the Third Assembly of Physicians and Pharmacists, February 10, 1916.

Doctor Roxas read before the Colegio Medico-Farmacaceutico a paper on "Two Cases of Abdominal Pregnancy with Living Fetuses." Published in the "Revista" of the Colegio last November.

DEPARTMENT OF PEDIATRICS.

The department has attended during the year about 8,000 patients in the dispensary and about 600 patients in unit 9 of the hospital, besides giving instruction to medical students and nurses.

Under the immediate supervision of the chief of the department, the courses of instruction for the nurses were given by Doctors R. Santos and Arvisú.

Doctor Santos gave lectures and practical demonstration on infant feeding and hygiene to medical students and with them several visits were made to the Gota de Leche and its dairy in Pasay in order to familiarize them with their working.

Doctor Jesus Gonzales gave theoretical and practical lectures twice a week in the dispensary from November to March, 1916.

As in previous years, the plan of instruction for medical students is both didactic and practical. For this purpose the chief of the department availed himself of quizzing, recitation, lectures, clinical comment at bedside, and clinical conferences on selected cases.

During the first semester the students are given lectures on the attributes of the normal child, physico-mental development of children, clinical examination of patients, and study and interpretation of symptoms, so that they may be prepared for diagnosis and treatment of diseases.

During the second semester the common diseases of children are studied. Every Saturday of this semester is devoted to clinical conferences where the histories of selected cases are read and discussed. In the second semester of the last academic

course the system employed by Doctor Janeway of Johns Hopkins was adopted (i. e., on the last class day of each month a clinical "round up" is held, when the student, whose turn it happens to be, reports on the work of the month). The students are also required to present short papers on questions which come up in the course of the examination of patients.

During the course the students visited the San Lazaro Hospital in order to study infectious diseases, such as measles, diphtheria, etc.

Doctor Albert gave five lectures in the months of May and June on "Infant Welfare Work." The last two lectures were about prenatal care, with some notes on the investigation of antenatal mortality in the Philippines. According to his investigations, this mortality is very high, very much higher perhaps than in other countries with respect to stillbirth. It is the opinion of the chief of the department that the establishment of an ante-natal research laboratory like the one recommended by Doctor Armand Routh (*British Med. Jour.*, Feb. 14, 1915) will be of great value and will help towards the solution of the great problem of infant mortality in the Philippines.

The increasing need of the knowledge of pediatrics compels the chief of the department to recommend the study of this subject, not only in the fourth year as is now the case, but also in the fifth year, giving them a "senior course" of not less than thirty-four hours, in order to complete their instruction given in the fourth year.

Pediatrics is an extensive subject, entirely different from the medicine of adults, and constitutes a true specialty among all practitioners. Besides, repetition is a necessity in all good instruction and the giving of this subject in the fifth year will undoubtedly be beneficial to all medical men who practice their profession in this country.

On the purely clinical side, Doctor Albert is continuing his investigation on nephritis, tuberculosis, enteritis, bronchopneumonia, and infantile beriberi.

PUBLICATIONS.

During the last course Doctor Albert published a paper on the "Antenatal Mortality in the Philippines" and, with Doctor Arvisú, a paper on "Physico-Mental Development of Filipino Children under three years."

DEPARTMENT OF HYGIENE.

The function of this department is to give instruction to the fifth-year students on the principles governing the procedure

applicable to the prevention of dangerous communicable diseases, laying stress on the administrative methods of enforcing compulsory notification, isolation, quarantine, disinfection, popular education, and immunization.

A prominent feature of this course was the unusual space given to the importance of the facts and means regarding transmission of dangerous communicable diseases, particular stress being laid on the mechanism of the role performed by insects in conveying diseases.

There are other subjects taught in this department, such as old and new methods of removal and disposal of refuse; the study of air and atmosphere, including the problems of ventilation as related to construction and dealing with the necessary cubic space per capita, due consideration being given to the changes and modifications demanded by varying climatic conditions; water and water supplies, with a careful study of their sources and method of collection; means and origin of pollution, and its very important bearing upon the morbidity and death rate of a given population. These topics were all fully discussed together with special sanitary measures relating thereto.

The laboratory work of the Department consisted in making the student acquainted with the practical biological examination of water, air, soil, and of foods, such as meat, fish, milk, and milk products.

GENERAL OBSERVATIONS.

From all that has been stated it will be seen that the College of Medicine and Surgery has put forth all possible efforts to promote the progress of the students, to produce valuable contributions to science and to render important services to the community as well. It is needless to say that our college, in spite of the fact that it is classified among the first-class colleges in the United States, still needs to be improved in certain lines. With the steady increase in the number of students from year to year, it will be necessary to continue to enlarge our laboratories and to increase the number of our instructors. We will necessarily be obliged to increase our expenses, a matter which the Legislature should take into consideration in fixing its contribution to the University of the Philippines. It would be a great mistake and an injustice to the youth of this country, as well as to the public at large, to limit the number of students who may be admitted to the college and it would also be a great injustice to admit all applicants without providing the necessary means for their proper instruction in all the various departments of medical science. On the other hand, while our advance has been rapid

and creditable, in every way, we must not forget that great advances have been made along the lines of medical education elsewhere and that, if we are to maintain the position which we have attained, we must also continue to advance and not allow our equipment to deteriorate and our efficiency in personnel and material to be impaired.

COLLEGE OF LIBERAL ARTS.

The College of Liberal Arts is of particular importance in the life of the entire University. Beside the subjects taught leading to the degrees of B. A., B. S., M. A., and B. S. E., the college prepares students for the Colleges of Medicine and Law.

The accomplishments attained by the college during the last academic year may be judged from the work done by its different departments.

DEPARTMENT OF BOTANY.

There has been a distinct increase in the number of students studying botany, but the space is so limited in the botanical laboratory that this increase in numbers is something of a hindrance. Some of the research work in the department of botany is connected with the economic development of the country, while some is of a purely scientific character.

Doctor Shaw has been engaged in an extensive study of a group of lower plants known as the *Volvocaceae* and, when his results are published, they will be an important contribution to knowledge of the subject. Doctor Brown has been preparing the manuscript of an extensive and important paper on the relations between the environment and the different types of vegetation on Mount Maquiling. He also has a paper ready for publication, which was prepared with Mr. Heise of the Bureau of Science, on the relation of temperature to carbon-dioxide assimilation in plants. Some idea of the large amount of important work which has been accomplished by Professor Merrill during the year 1915-16 may be gathered from the following publications:

- New plants from Sorsogon. Phil. Journ. Sci., 11 (1916), Bot., 1-35.
- Notes on the Flora of Borneo. Phil. Journ. Sci., 11 (1916), 49-100.
- New interesting Philippine Bitaceae. Phil. Journ. Sci., 11 (1916), Bot., 125-145.
- New plants from Samar. Phil. Journ. Sci., 11 (1916), 4. (In press.)
- Reliquiae Robinsonianae. Phil. Journ. Sci., 11 (1916), Bot., Nos. 4, 5. (In press.)
- The utility of Field labels in Herbarium Practice Science (1916). (In press.)
- On the application of the generic name *Naclea* of Linnaeus. Journ. Wash. Acad. Sci., 5, 530-542.

- The systematic position of the "rain-tree", *Pithecolobium Saman*. Journ. Wash. Acad. Sci., 6, 42-48.
- On the identity of Blanco's species of *Bambusa*. Am. Journ. Bot., 3 (1916), 58-64.
- Bifaria*, *Korthalsella*, and *Pseudixus*. Mot. Mag. Tokyo 30 (1916), 66-68.
- A simple method of making carbon leaf impressions. *Torreyia* 15, 175-181.
- Supplementary Herbarium Labels. *Torreyia*, 15. (In press.)
- A contribution to the Bibliography of the Flora of Borneo. *Sarawak Museum Journal*, 1 (1915), 99-136.

DEPARTMENT OF ZOÖLOGY.

A considerable increase in the number of students taking courses in zoölogy was noted during the year 1915-16. About 120 students were taught by the department; most of these were liberal-arts students, but a number were from the College of Medicine and Surgery, the School of Pharmacy, the College of Engineering, and the College of Veterinary Science. An increasing interest in advanced courses in zoölogy has been evident.

During the year the department moved its quarters from the Medical School to the new Freer Chemical Laboratory which makes a very comfortable and convenient laboratory. The exhibit made by the department at the inauguration of this laboratory received favorable mention from Governor-General Harrison.

Mr. Day was detailed to make a scientific examination of some fishponds at the request of certain people in order to discover the reason for their lack of success in raising bangos.

Mr. Wharton read a paper before the Philippine Medical Society dealing with some experiments and observations on the parasitic worm, *Ascaris lumbricoides*, which lives in the human intestine. Mr. Light read a paper before the same society on the "Problem of Fertilization." Doctor Cowles delivered a university lecture on "The Determiners of Hereditary Characters and their Transmission from Parents to Offspring."

The following publications from the zoölogical department appeared during the year:

- The Difficulties Encountered in the Culture of the Bangos, or Milkfish, in Zambales Province, by Mr. Day. *Phil. Journ. of Science*, September, 1915.
- Notes on Philippine Alsyonaria. Part III. Two new species of *Lithophytum* Forskal, by Mr. Light. *Phil. Journ. Science*, January, 1915.
- Part IV.—Notes on Philippine Stolenifera and Xeniidæ, by Mr. Light. *Phil. Journ. of Science*, March, 1915.
- Part V.—*Cornularia minuta*, a new species, by Mr. Light, *Phil. Journ. of Science*, May, 1915.
- The Habits of some Tropical Crustaceans, by R. P. Cowles, *Phil. Journ. of Science*, January, 1915.

Are *Atya spinipes* Newport and *Atya Armata* Milne Edwards Synonyms for *Atya molliccensis* De Haan, by R. P. Cowles. Phil. Journ. Science, March, 1915.

DEPARTMENT OF CHEMISTRY.

During the year 1915-16 the department was moved into the new chemical laboratory wherein working conditions are very satisfactory, due largely to the excellent ventilation and stock room facilities.

The number of students studying chemistry was considerably larger than the preceding year. More space and a greater amount of equipment are therefore required.

There are several courses in practical chemistry, such as special courses in food, water analysis, etc., which should be given, when the conditions in the department permit it.

Doctor H. G. Deming published a paper on "The use of diagrams in chemical calculations." (Journal of Industrial and Engineering Chemistry, March, 1916).

Experiments carried out during the year by Doctor M. V. del Rosario showed that the extermination of locusts might possibly be accomplished by means of chlorine gas.

Doctor A. P. West spent the months of May and June in Japan revising a part of his laboratory manual. New experiments have been worked out, while many of the old experiments have been entirely rewritten and simplified with the result that the book, even in its present unfinished condition, has proved very helpful to the students and has enabled a larger number of students to master the course (Chemistry 2) in organic chemistry.

DEPARTMENT OF ECONOMICS, HISTORY AND SOCIOLOGY.

The year has shown a great change in the work in economics, namely, the establishment of a course in commerce leading to the degree of bachelor of science in commerce, requiring a bachelor of arts degree and two years of study. This step has been taken to answer the growing demand for trained Filipinos in the various branches of business. The establishment of the commerce course, and the fact that the classes are given at night, thereby offering an opportunity for many men who are employed during the day to register, will affect the policy of the department. In the first place, the other economic courses offered in the College of Liberal Arts will have to be given also at night, or late in the afternoon. In the second place, the department must be willing to accommodate many special students, for it is believed that only a few will be able to

fulfill the requirement for a degree of bachelor of science in commerce. In this connection, it is encouraging to state that the policy of appointing special lecturers has already been adopted. The courses in accounting have been placed in charge of Mr. Graves, of the Bureau of Audits; those in insurance are in charge of Mr. Shailer, the manager of the Insular Life Assurance Company. The appointment of Mr. Vicente Fabella is also fortunate, for it makes available the services of the first and only Filipino to pass an examination for certified public accountant. Mr. Fabella is a graduate of the College of Business Administration of the University of Chicago.

Another advantage gained in the appointment of lecturers is that it brings the department of economics and the students into touch with men who are actually in the business world, and indirectly, the lecturers ought to be of help in securing business openings for our students and graduates. Furthermore, there has been instituted the practice of inviting men in charge of special branches of business to lecture to the classes. The same plan has been adopted in connection with the work in Philippine history, and already eminent scholars have been invited to lecture before the history classes.

Professor Conrado Benitez has published two articles on the foreign merchants of the eighteenth and nineteenth centuries in the Philippines. Professor Craig and Professor Benitez have published a book on Philippine progress prior to the year 1898. Professor Craig has also published "The Former Philippines through Foreign Eyes." Professor Craig's research has dealt with Philippine agriculture and industrial training under Spain, with translations of some of the works of Rizal. In addition, he has published papers on Chinese references to the pre-Spanish Philippines, a new 1349 reference to the Philippines, a list of history club subjects, and a history research grouping plan. It is a matter of regret that the University has lost the valuable services of Professor Craig, whose resignation was accepted at his insistent request.

A brief survey of the development of the teaching of history in the University shows a marked change in the point of view and policy of the department regarding history. In former years the history teaching was to a great extent patterned after the curriculum of foreign universities, and the courses emphasized were those which related to affairs outside of the Philippines. A great change has taken place since then, and at present the policy of the department is to emphasize research in Philippine history and its teaching.

The number of courses offered by the history department was reduced and such courses as history and theories of government, American national government, American state government, American politics, and American diplomacy in the Orient were transferred to the department of political science, which was opened last July in charge of the dean, College of Law. Mr. Maximo Kalaw was recently appointed instructor in this department. Mr. Fernandez began work on the biographies of the members of the Malolos Congress and started the preparation of outlines of Philippine history for his classes. He has published three articles on the European war. To meet the present needs of the department, the appointment of an assistant professor in history is an imperative necessity.

Mr. Rivera was recently appointed instructor in sociology. His appointment, it is considered, will be a great help to Professor Benitez who has, from the very beginning of his connection with the University, been forced to take charge of subjects in the various departments, such as political science, sociology, history, and economics. It is a source of satisfaction to be able to say that an era of specialization has begun in this department.

DEPARTMENT OF ENGLISH.

It affords me pleasure to state that in this department there is a steadily growing interest in this subject of study. The enrollment this year is greater than ever before as will appear from an examination of the records in the University. The work progressed along the usual lines. There were no essential changes in methods but means were provided by which delinquent students in English were given additional attention. The staff was increased by the employment of Mr. Antonio Viterbo.

The work in English will be improved as fast as the University comes in closer relation with the preparatory schools. No other department is as dependent on the quality of the previous work of the student as is the department of English. It also may be stated that the other departments in the University depend to a large extent on the quality of the work done in the department of English. As this department is developed and strengthened so will the whole institution grow and become fruitful for the benefit of the Filipino people.

The library of the College of Liberal Arts is under the charge of the Chief of the Department of English, Professor Snow. During the last year the books, as received by the property clerk, were catalogued by author and subject and so rearranged

and readjusted as to render them more useful to the students. A system of "loans" from the General Library was inaugurated and every aid possible given to readers.

Mr. St. Clair and Mr. Weidmann have been actively interested in the athletic work connected with the Bureau of Education. Professor Snow attended the celebration of arbor day in the province of Nueva Ecija and visited Batangas and Rizal and some of the private schools of Manila. He conducted observation work in the Normal School and in the Manila High School. Mr. Hilles assisted in the preparation of an English manual published by the Bureau of Education, and is contributing a series of English lessons to a paper published by the Filipino Y. M. C. A.

Mr. St. Clair prepared a manual of composition which is now used in the classes with great success. Professor Snow has worked over a manuscript rhetoric and is at present engaged in annotating various English classics for the use of high schools.

FOREIGN LANGUAGES.

The enrollment in the French classes has increased about 25 per cent, while that in the Latin classes has decreased about 30 per cent. The enrollment in the German classes has been greater than the year previous. Mr. Natividad was appointed an assistant and this addition has led to a notable improvement. Mr. Natividad is working on a chemical dictionary in German, English, and Spanish and it is believed that it will be valuable to students of medicine and pharmacy. Professor Scheerer, upon the request of the University of Santo Tomas, wrote an extensive prologue to the "Diccionario Español-Ibatan." Material for a linguistic bibliography of the Philippines was furnished the Philippine Library and the collection and translation of "Philippine Texts" was continued. In addition, Professor Scheerer has delivered two lectures at the University, one on the "Outlines of the history of exploration of the Philippine Languages and their Relatives East and West," the other on "How Germany succeeds in fertilizing her fields with nitrogen taken from the air."

The study of the Spanish language is becoming most attractive to the students of the University. The enrollment in 1914 was 115, that of the last year was 155, and this year the number has reached 230.

In view of the growing number of students and of the increasing interest taken in Spanish it was found necessary to appoint an assistant to meet the needs of the department. It is my opinion that our graduates should possess an extensive knowl-

edge of the Spanish language in addition to an exact knowledge of English, so that they can enter the practice of their professions with greater success. The reason is plain. Notwithstanding the great enthusiasm of the people for the study of English, a large portion of the public still speaks, and perhaps will continue to speak the Spanish language for years to come. In social intercourse either a native language or the Spanish language is employed; therefore, unless our graduates, particularly in Medicine and in Law, know also how to speak Spanish, they will find not a few difficulties in the practice of their professions.

NATIVE LANGUAGES.

One of the most important subjects which the University should develop, as soon as its financial condition permits, is the scientific study of the different dialects, with a view to their unification. The President of the Senate, Honorable Manuel L. Quezon, speaking some days ago before an association of young Filipinos on the propagation of the English and Spanish languages in our country, incidentally stated that the native languages will never disappear. And they will not disappear: First, because the great majority of the children who enter the primary schools do not, for one reason or another, continue their study in the intermediate schools, and they abandon the schools before they acquire the habit of speaking English; second, because as long as the majority of Filipino mothers do not possess a knowledge of foreign languages, they will continue to transmit their own language to their children; and, third, because the desire to preserve one's own language is as deeply rooted in the heart of the Filipinos as is the desire to preserve their own nationality.

The unity of native languages will tend to develop patriotic sentiments, to consolidate common interests, and to foster national ideals. Hence the necessity of beginning the study of native languages in order to throw light on this important question of a national language and to find a possible solution to the problem of what language should be used in primary instruction.

To those who believe in the future success of the attempt to extend the English language to all classes of Philippine society, the study of the Philippine languages would appear unnecessary. On the other hand, those who maintain the opinion that the Filipino people, besides foreign languages, should have their own national language, would, undoubtedly, consider the initiative of the University in this matter as one of the

most valuable services that it could render to the country. The result may be remote, but nevertheless, at all events from the academic point of view, the chair of Indonesian philology should be created in the University to have for its object the preparation of a certain number of young Filipinos in the following special subjects:

1. Science of languages, with particular emphasis on the history of languages of modern nations.
2. Exhaustive study of the Philippine languages in their different aspects—phonetics, grammar, lexicography, and classification—with a view to their unification.
3. Investigation of the literature (written or oral) of the Indonesian peoples, particularly of those inhabiting the Philippines, with the purpose of utilizing for the use of the primary schools the stories, poems, proverbs, which tend to stimulate the minds of the children along patriotic, moral, and aesthetic lines.

In connection with this plan, it will not be amiss to note that even in some universities of the United States, such as the Universities of Chicago and Johns Hopkins, courses in Tagalog, Visayan, and Ilocano are now actually given.

SCHOOL OF EDUCATION.

The increase in the number of students in the school is indeed very gratifying. For the school year 1914–15, there were 74 students enrolled in the course in education. In 1915–16, the number of students increased to 86, and this year, 1916–17, there are 120 students. It is thus evident that the establishment of the school was justified from the beginning, and judging from the increase in the number of students, its continuation and expansion is necessary in the future.

It is also a source of pleasure for me to be able to state that all the 11 graduates of the school are holding responsible positions in the public schools. Two of them are principals of provincial high schools, while 2 are instructors in the College of Liberal Arts. Prof. Francisco Benitez, the director of the school, published this year the following papers: "A Study in Individual Differences," "Social Demands upon our Schools," "The Educative Function of the Home," and "Social and Economic Status of Our Teachers."

UNIVERSITY HIGH SCHOOL.

On June 22, 1915, the Board of Regents authorized the establishment of a university high school in order to provide classes for practice teaching and for the study of problems in education as well as to prepare students for the University. The course

of study prescribed for the public secondary school is being followed, although it may be modified in the future in accordance with the special purposes of the school.

In July, 1916, a first-year class of 23 students was organized. After this year, one class in advance will be organized every year until the full secondary course of four years is established. It will also be necessary to appoint some one to act as supervisor of practice teaching and as high school principal.

PHYSICAL CULTURE DEPARTMENT.

The measurement of each student is taken at the time of his physical examination. These statistics are to be used in working out an anthropometric chart of the male Filipino college students. This work is being done in conjunction with the anthropological work of Mr. Beyer.

The athletic work of the University is indeed worthy of mention. I believe the college year just passing, in athletics, will always be pointed to by all loyal sons and daughters of the University, as one of the most successful in its history. The brilliant record made by our teams during the last year gave them the honor of holding the championship of the Philippines for 1916, a title of which the student body may justly feel proud.

MILITARY TRAINING.

The introduction of military training in the University has been a subject of careful study on the part of the University authorities since 1914. The question was again considered last year, by the undersigned, on the recommendation of the Student Welfare Committee, and finally it was authorized by the Board of Regents, the approval of the Governor-General having been obtained in accordance with Executive Order No. 17, series 1915.

In addition to the benefit that the country will derive from the training of young men in military science, there are other reasons which justify the introduction of this instruction. In the first place, the drills given in the open air will greatly improve the health of the students. In the second place, these young men will increase their business and economic efficiency, through the habits of discipline, obedience, self-control, order, and command thus acquired.

The matter of adopting a uniform for University students should be mentioned in this connection. This subject is discussed in detail in the appendix to this report to which I wish to invite attention.

GENERAL OBSERVATIONS.

Remarkable as have been the accomplishments attained during the last year, other activities of certain departments could be developed more extensively, had the University been provided with a larger appropriation. The department of botany is temporarily housed in a small space and that of chemistry needs more apparatus and laboratory supplies. An imperative necessity for the University is the construction of the "Rizal Hall Building" for the class rooms and laboratories of the departments of zoölogy, botany, physics, and mineralogy and for the museum and laboratory of these departments. The construction of this building has been authorized by the Legislature, the plans and specifications have been approved by the Board of Regents, and the only thing remaining undone is to release the money from the Insular Treasury either by executive authority or by legislative action.

In the House of Representatives a bill was recently introduced providing for the establishment of a school of journalism, which indicates that our Representatives begin to realize the importance of adequate training for work in this noble profession. Such a school of journalism could be easily opened in the College of Liberal Arts by appointing certain lecturers having, as we have at present, the cooperation of the departments of English and Spanish, history, logic, psychology and ethics, anthropology, and social and political sciences. Short courses leading to the degree of M. A. in journalism could be arranged. Additional courses, now offered in the department of political science, such as European governments, political parties, municipal government, theory and practice of legislation, and a teacher's course in government would prove valuable aids. All these course would be taught with special reference to conditions in the Philippines and may be expected to be of great help in the propagation of sound political ideals. The activities of the department of journalism could be also broadened with the giving of courses in diplomacy, the importance of which, under the present circumstances, is being recognized more and more every day. Thus it is seen that the University is in a position to serve adequately the fundamental needs of society, if the necessary means for the establishment and maintenance and development of the work are supplied.

COLLEGE OF LAW.

The College of Law was founded with five general purposes in view: (1) To prepare students by thorough and practical

legal instruction conducted in the English language covering all the fundamental law subjects for the practice of law in the Philippines; (2) to graduate leaders for the country; (3) to contribute to Philippine legal literature and jurisprudence; (4) to bring repute to the Filipino people abroad by the standard of work done and to be of general use to the people of the Islands; and (5) to take the lead in the fostering of University activities and spirit and in law school matters generally.

ACCOMPLISHMENTS.

That the first purpose has been accomplished is shown by the uniform success of the graduates of the College of Law in the bar examinations, and by their further success in practice. A table prepared by the Supreme Court shows that for the four years during which graduates of this school have entered the bar examination, they have invariably stood at the head of the examination list and have had a passing percentage far in excess of that of any other school. Moreover, in actual practice and in the government service, the alumni of the college have proved a credit to the Philippines. Many judges have voluntarily written commending their work.

That the second purpose is also being fulfilled is shown by the fact that even in the short time which has already elapsed, law alumni are found in most responsible positions. For example, two graduates are members of the House of Representatives, while others are found in important positions which it would be wearisome to enumerate. There is every reason to believe that in the near future the alumni of this school will have an important, if not a controlling, influence on the policies of the Philippines.

The third purpose has not been fulfilled as much as could be desired, because of the fact that in order to economize, the faculty have individually been forced to undertake an excessive amount of instruction. Nevertheless, the seniors have published many valuable theses, as is indicated by the list attached; the college publishes the only law journal in the Philippines and the faculty have issued legal treatises and have others in course of preparation. The Philippine legal series is under way, the first volume being Judge Villareal's work on Criminal Procedure. Dean Malcolm has just completed his work on Philippine Government and is preparing a revision of the ordinances of the city of Manila and a book on Philippine constitutional law. Professor Bocobo, who published an outline on persons and family relations, has contributed numerous articles to journals, and has prepared outlines on obligations, property, and wills and

succession. His classes are now using these outlines. Instructor Espiritu has published notes on the Code of Commerce and a source book on Roman law. Instructor Hilado has devoted all his energies and his personal influence to imbuing in the minds of the students civic virtues to heighten their sense of responsibility. It would be well to encourage the College of Law in its effort to contribute to Philippine jurisprudence, for after the Code Committee is dissolved, it will be logically the only institution prepared to carry on this important work. Accordingly, the Master's degree in law should be offered.

That the fourth purpose has been fulfilled is conclusively shown by the recognition of the College of Law as a member of the Association of American law schools, together with the further fact that on his recent trip to the United States, Dean Malcolm found by conference with law instructors that American law schools were much interested in the methods followed in the College of Law, University of the Philippines, and in some instances, were contemplating copying the same. As an example of other efforts to aid in the advancement of the Islands is to be noted the special courses which are offered for peace officers and justices of the peace.

ACTIVITIES.

The last purpose has been developed to the great benefit of the University and other law schools. Among the most important activities are the law forum, the debate between the seniors and the Philippine barristers, the oratorical contest, the publication of the Philippine Law Journal, and the participation in the Rizal day parade. Prominent members of the bar and judiciary are invited to speak before the law forum, and thereby give the students the benefit of their knowledge in their special fields. In the annual debate between the seniors and the Philippine barristers important economic and sociological problems are discussed, and an opportunity is given to the public to see the original work of our students. The annual oratorical contest was by far the greatest event of the year. Justice Carson of the Supreme Court gives the prizes, consisting of a gold medal and a silver medal for the winners of the first and second places, and a cup, inscribed with the names of the winners. The Philippine Law Journal published by the faculty, alumni, and students of the College of Law, has proved a good medium for the intelligent discussion of legal problems both from the Anglo-American and from the civil law point of view. The fact that Universities like Harvard, Michigan, Chicago, Tulane,

Yale, and others have placed the Philippine Law Journal on their exchange lists indicates the high regard in which this publication is held in the United States.

PUBLICATIONS.

The following list shows the publications of the College of Law during the academic year 1915-16:

- The Supreme Court of the Philippine Islands, by Conrado Benitez.
- What Lessons May be Derived by the Philippine Islands from the Legal History of Louisiana, by José P. Laurel.
- Torts under the Spanish Law, by Eutiquiano Garcia.
- The Judiciary, by Jerónimo Samson.
- The Best Form of Government for the City of Manila, Edwin C. Jamison.
- The Bureau of Justice, by Sebastian Pamatmat.
- The Rationale of Dying Declarations, etc., by Eulogio Benitez.
- Water Rights in the Philippines, by Carlos Tan.
- The Code Committee, by Sebastian Pamatmat.
- The Influence of Hereditary Tendencies on Criminal Acts, by President Villamor.
- A Comparative Study of the Law of Damages under the Spanish and the Common Law Systems, by Felipe Natividad.
- The Philippine Bar Association, by Jerónimo Samson.
- Some Eminent Filipino Lawyers, by Ricardo Nepomuceno.
- Philippine Statutory Construction, by George A. Malcolm.
- The Private Law Schools, by Conrado Benitez.
- The Beginning and the End of Law, by Hon. W. L. Goldsborough.
- Comparative Study of Surety under the Civil Law and at Common Law, by Gaudencio Garcia.
- The College of Law, by Sebastian Pamatmat.
- Importance of Torrens Title and Procedure for Securing the Same, by Enrique Altavas.

GENERAL OBSERVATIONS.

The work done by the College of Law has been highly satisfactory. The college has annually taken part in the Rizal Day parade, one year obtaining the grand prize, and every year it has appeared with credit to the day and to the University. Moreover, the College of Law has initiated many enterprises, such as the publication of the Philippinensian, which are of general University advantage. In the way of uplifting legal instruction generally the dean of the College of Law has always been ready to consult with the Secretary of Public Instruction as to other law schools in the Philippines and to assist them in the institution of changes in their curriculum and methods of instruction. This work has been done frequently. The College also assists in giving the work in political science at present so important for the Islands. Prof. Francisco Benitez's late article in the Philippine Review also proves that the great

result has been accomplished at a smaller cost per student or per graduate than that of any other College in the University. It can also be shown that this school is less expensive than are other reputable law schools in the United States.

COLLEGE OF AGRICULTURE.

The Board of Regents is well aware of the difficulties which this college had to meet and overcome last year in regard to its personnel as well as in its equipment, buildings, and laboratory supplies. There is no doubt that our College of Agriculture is far from being as properly equipped as other leading colleges of its kind, and this deficiency is mainly due to the limited means we have, which prevents us at present from furnishing it with all necessary implements. Notwithstanding these difficulties, I am satisfied that under the circumstances the work done by the College during the last academic year has been of high grade and efficiency.

The enrollment was 444 including the members of the Forest School, which recently was separated from the college under Act No. 2578. The college graduated at the last commencement 10 bachelors of agriculture and 2 masters of science. Out of these graduates, 1 is employed on the Calamba Sugar Estate, and 9 are enrolled in the Government service as follows: Two in the Bureau of Education; 1 in the Department of Mindanao and Sulu; and 6 in the Bureau of Agriculture.

WORK OF THE COLLEGE.

At the time that the Committee on Agriculture of the Philippine Assembly was investigating last year the feasibility of combining the activities of the College of Agriculture with that of the Bureau of Agriculture, Dean Copeland submitted to said committee an extensive report dealing with the activities of the college entitled "The Work of the College of Agriculture." This report contains valuable information as to the functions of the college; it was published in volume 5, No. 1, May, 1916, of the Philippine Agriculturist and Forester. The reading of this report will, I believe, prove to be of interest to the Board.

In considering this report of the dean of the College of Agriculture, your attention is especially invited to the fact that the ultimate results of all the teaching and research work of the college are practical in character, enabling the students to solve real problems relating to the agricultural products of the Philippine Islands.

These results can only be obtained after a number of years of experiment and study, and must be checked and verified,

before they are given to the world and take their place in the realm of accurate, scientific achievement, upon which our farmers may rely and by which they can hope to lift the science of farming to a plane equal to that of similar work in other countries.

While the statements of Doctor Copeland are lengthy and somewhat intricate, yet it must be remembered that the subjects treated by him are among the most important for the economic welfare of the Philippine Islands, and their successful determination means the future success of the agricultural interests of the people of the Philippines.

There was a widespread misapprehension as to the amount and nature of the practical work in the College of Agriculture, and for the purpose of giving the people an exact idea of the work in this college an exhibition was organized for the first time in the history of the University. The exhibition was a signal success. Members of the Philippine Assembly and representatives of the University and the press, provincial and municipal officials of the Province of Laguna, and many people interested in agriculture attended it and since then public opinion has been pronounced in favor of the College of Agriculture and of its adequate maintenance.

PRACTICAL TRAINING.

The practical training on the farm is given throughout the entire curriculum except for the first-year and sixth-year course. This training is given in the department of botany, agronomy, chemistry, entomology, and agricultural engineering. All students are given extensive training in all practical details of farm operation and management to the full extent of the facilities that the University can afford. All the important culture work on the farm is in the hands of the students. As a matter of fact, all the students' time outside of academic work is employed on the farm. Out of the 127 hectares of ground owned by the college, 60 hectares are under cultivation by laborers. The number of plants in permanent plantings of coconut, abaca, coffee, fruits, etc., is about 1,800; and the number of cultures in constant progress including seed selections, fertilizing tests, etc., is about 2,500.

PUBLICATIONS.

The following is the list of publications made by the faculty and students during last year in the "Philippine Agriculturist and Forester."

The work of the College of Agriculture, by Edwin B. Copeland, Philippine Agriculturist, Vol. 5, p. 1.

- Preliminary Results of Experiments in Hog Feeding at the College of Agriculture, by Sam. B. Durham. Vol. IV, p. 173.
- Additional Notes on Philippine Plant Diseases, by C. F. Baker. Vol. V, p. 73.
- A Study of Native Coffee Production, by Fernando D. Luistro, Phil. Agri. & For., Vol. IV, p. 153.
- Cacao and Its Local Diseases, by Teodorico Gamboa Ghofulpo. Vol. IV, p. 163.
- Growth of Legumes as Influenced by Lime, by Amando Laparan y Layosa. Vol. IV, p. 181.
- A Study of Cowpea Culture with Special Reference to Selection in the "New Era" variety, by Agripino Constantino y San Juan. Vol. IV, p. 185.
- A Study of the Production of Peanuts, by Gaudencio Consunji y Tongco. Vol. IV, p. 195.
- Abaca Fiber, by Rafael B. Espino. Vol. IV, p. 200.
- A Study of the Effects of Commercial Fertilizers on Corn, by Pedro Lecaros Montellano. Vol. IV, p. 217.
- The Production of Cigar Wrapper Tobacco under Shade in the Philippines, by Domingo B. Paguirigan y Amaligan. Vol. V, p. 39.
- Fertilizer Tests with Tobacco Varieties on College Soils, by Gaudencio Palafox y de la Cuesta. Vol. V, p. 50.
- Variability of Tobacco in Culture on the College Farm, by Alfonso B. Cagurangan. Vol. V, p. 60.
- Some Phycomycetous Diseases of Cultivated Plants in the Philippines, by Nemesio Mendiola & Rafael B. Espino. Vol. V, p. 65.
- Color Variation on Seed Crops of Cultivated Legumes, by Francisco Gatchalian Galang. Vol. V, p. 79.
- Comparative Studies of Half Breed or "Mestizo" and Native Chicken, by Blas C. Velez. Vol. V, p. 103.
- A Study of Mushroom Culture in the Philippines, by Arsenio Santos Vicencio. Vol. V, p. 119.
- Effect of Girdling on Parang and Forest Trees, by Aniceto Villamil. Vol. V, p. 129.
- Fertilization of Rice, by Cornelio Balangu y Rulloda. Vol. V, p. 144.
- Local Growth of Rubber and Guttapercha Plants, by Roman O. Sarmiento. Vol. V, p. 159.
- Test and Selections of Mungo Beans, by Lucio Antonio San Miguel. Vol. V, p. 164.
- A Study of Philippine Bananas, by Nicanor G. Teodoro. Published in Philippine Journal of Science.

SCIENTIFIC INVESTIGATIONS.

The thesis work of the advanced students is not purely scientific investigation, but represents a practical study of many simple and pressing problems in Philippine agriculture. This work constitutes a practical test of the student's ability to apply what he has learned. The high importance of the practical results of the thesis work is their full and sufficient justification.

The greatest part of the work of the College has been devoted to the investigation of individual crops, such as coconut, rice, cane,

maize, coffee, cacao, rubber, and tobacco. The work on tobacco is particularly remarkable.

WORK ON TOBACCO.

The tobacco exhibit displayed by the College of Agriculture at Los Baños on April 1, 1916, was brought to Manila at the request of the Collector of Internal Revenue, who has a special interest in the tobacco industry, to be exhibited in the Bureau of Internal Revenue Building. This tobacco exhibit has created favorable comment among the cigar and cigarette manufacturers of the city who have flocked there to inspect the different kinds of tobacco leaves displayed.

This exhibit represents the result of four years' work on the part of the students and faculty of the college under the direction of Prof. Charles F. Baker of the agronomy department, who has been interested in the development of a light-colored wrapper tobacco of fine texture which is adapted to the Philippines. The most notable of the experiments was the creation of the Tirona hybrid, a cross between the Connecticut wrapper tobacco and the Cagayan tobacco, which is named after the student who carried the experiments through. By constant inbreeding, and careful seed selection, the strain has become well-defined and its characteristics fixed. The College of Agriculture has a limited amount of seeds of this hybrid for distribution.

Other varieties contained in the exhibit are Vuelto Abajo (Cuban), Connecticut, Havana, Cagayan, Sumatra, Texas, Cuban, and Lowland Turkish. The samples contain these varieties grown in the open and under cheese cloth. The leaves are remarkable for their size, color, fine texture, and pliability.

Doctor Baker, the professor of agronomy, has a strong personal interest in tobacco work, as a result of four years of such work done for the Cuban Government and one year for the Brazilian Government. He prepared, at the request of the Collector of Internal Revenue, a prospectus to be used as a practical basis on which may be established active coöperative relationship in tobacco work with the Bureau of Agriculture, as recently provided by law. The prospectus received the approval of the highest authorities and was accepted as a working plan for the establishment of the tobacco testing station in the Cagayan Valley. Doctor Baker was recommended for an appointment as technical assistant without compensation to the Director of Agriculture to take specific direction of this particular work.

It is a pleasure to report that the Tobacco Testing Station

in the Cagayan Valley is now in operation under the charge of two last year graduates from the College of Agriculture, Messrs. Domingo Paguirigan and Alfonso Cagurangan, who made a special study in tobacco.

GENERAL OBSERVATIONS.

In my opinion the College of Agriculture has advanced along different lines of activity, not only in the teaching of students, but also in the development of scientific knowledge in agriculture. We need, however, to introduce some reforms in the College, in order to meet the changing needs of the country.

The subject of German should be dropped from the first two years, not because the importance of this language is less appreciated, but because the average knowledge of the students of the first two-year course does not seem sufficient to warrant their ability to study this subject in addition to English. For this reason, the Committee on the College of Agriculture, after a careful consideration of the matter, recommended to the Board of Regents that suggestion be made to the dean of the College of Agriculture to modify with the approval of the university council the curriculum of said college by eliminating the study of German during the first two years of study, provision being made that this subject be offered, during the last two years of the course, to such students as may desire to study for degrees higher than that of Bachelor of Agriculture.

In order to set a higher standard and to relieve the college from high-school work, it was deemed advisable to raise the entrance requirements for the years to come. The Board of Regents, on September 15, 1916, adopted a resolution to the effect that for the college year 1917-18, no student shall be admitted in the College of Agriculture who has not finished at least two years in some approved high school or who has not done work equivalent to the similar courses given in some approved private school; that for the year 1918-19, he must have finished at least three years in some approved high school or have done work equivalent to three years' work in some approved private school; and that for the college year 1919-20 he must have finished at least four years in some approved high school or have done work equivalent to the courses given in some approved private school. This resolution of the Board is to be submitted to the University council at its next meeting for consideration and final approval.

One of the difficulties confronting the college has been the limited teaching force. However, it may be stated that the appointment of Mr. Otto A. Reinking, as assistant professor of

plant pathology, has been a great help to the college, and that Mr. Bienvenido M. Gonzales, a recently returned pensionado, who made a special study of animal husbandry and who is now in charge of that department, will prove his ability to develop that course. Doctor Manuel L. Roxas, who is also a returned pensionado, made a special study of agricultural chemistry, and, as far as can be judged from various sources of information I have had of him, it is presumed that his services will play an important part in developing the chemistry department.

It is gratifying to state that new buildings, the tobacco house and the seed and harvest laboratory, were recently inaugurated; and another new building, the laboratory of agronomy, will be completed within a short time. The college, however, is still in need of other buildings, one to be used for a hospital and another for a dining room.

COLLEGE OF ENGINEERING.

The total number of students matriculated in the college for the academic year of 1915 was 47, with an increase of approximately 43 per cent over the preceding year. In my opinion, this small attendance is due mainly to the difficult and exacting subjects taught in this College, and to the comparatively limited opportunities for the graduates in the past.

As an inducement to students entering this college, tuition fees are not required to be paid. There is now pending in the House of Representatives a Bill providing for ten scholarships for this College and another ten for the College of Agriculture. It is very gratifying to say in this connection that public-spirited persons have taken a deep interest in the development of this college by offering scholarships to its poor and deserving students. His Excellency the Governor-General, Honorable Francis Burton Harrison, was the first to donate a scholarship for the present academic year. Others have also indicated their intention to do the same. This highly exemplary generosity will certainly stir up enthusiasm in those students who desire to pursue this difficult and most needed profession. It is to be hoped that hereafter the number of students in this college will considerably increase in view of the magnificent opportunities which may be expected to develop from the acquisition of the railroad by the Government, where important administrative and technical employment may be found for our graduates, both in the construction of lines and in the management of the railroad. Another prospect which should induce our youth to pursue the engineering career, is the tendency of the Government towards the development of our natural resources

and the exploitation of important industries, such as the manufacture of paper, weaving, etc.

COURSES IN MECHANICAL, ELECTRICAL, AND MINING ENGINEERING.

On July 12, 1915, the Board of Regents authorized the adoption of a scheme of courses in mechanical, electrical, and mining engineering. These courses have been outlined not only with the idea of giving the students a sound and thorough foundation in engineering but also with the idea of meeting those particular conditions which the Filipino engineers must be called upon to solve in the near future, in developing the engineering industries of the Islands. With this idea in mind, commercial or industrial mechanical and electrical engineering have received special attention. Inspection trips to commercial and manufacturing establishments have also been arranged. The courses are on a par with those of the American universities and are so arranged that students may acquire a degree in four, five, or six years. The first two years being the same for all the departments of engineering, it is not yet known what preferences the students will show in selecting their courses. These new departments are directly in line with industrial engineering.

INDUSTRIAL ENGINEERING.

In connection with the establishment of new departments in this college, attention is invited to the fact that a course of study in industrial engineering was approved by the faculty of the college and by the university council on April 11, 1916. This course, however, was not included in the catalogue of the University of this year because the committee on the college recommended that the giving of such a course be postponed. The reasons for the establishment of a course of industrial engineering are self-evident and I earnestly recommend the approval of the course of study of industrial engineering in this college.

NEW LABORATORY.

During this period a new and substantial engineering laboratory has been completed and we are now awaiting the arrival of machinery to put it in running order. Special attention was exercised in designing the engineering features in order that the laboratory may be well suited for future work as the University grows. The arrangement at present allows for a mechanical laboratory, an electrical laboratory and a hydraulic laboratory which are well adapted to the purposes intended but which will

not be adequate when the number of students materially increases. This defect, however, can be well taken care of at any time by constructing an addition to the building. A machine shop for repair work and student work is also installed.

GENERAL OBSERVATIONS.

Mr. Reynolds, the professor of mechanical and electrical engineering, again delivered a course of lectures on "Power Plant Engineering" at Meiji College, Japan, by invitation as in the preceding year. These lectures have since been published in the Japanese engineering magazines. The professor of physics completed during this period his work on the free ions in the atmosphere of the Tropics, the results of which were published in the *Physical Review* for January, 1916, and is now working on the following research problems:

- (1) The variation of the penetrating radiation with meteorological conditions and its relation to the radium emanation content of the atmosphere.
- (2) The diurnal variation of the earth's potential gradient and its relation to the ionization of the atmosphere.
- (3) Determination and classification of the mobilities of the atmospheric ions.

The professor of physics, Doctor Gurney, has been preparing a text book of physics, about half of which is already printed. In addition to the above, work was started in collaboration with Mr. Heise of the Bureau of Science, on an extensive survey of the radioactivity of the spring and well water of Luzon, approximately eight weeks of active work being spent in the field during the months of April and May, without expense to the University.

It is a pleasure to report that the three graduates from this college are doing excellent work in their chosen lines, one being engaged in practical irrigation work, another in practical sanitary engineering, and the third as instructor in physics at the University. Student assistants in physics are, likewise, appointed as at other Universities.

COLLEGE OF VETERINARY SCIENCE.

The College of Veterinary Science, as may be recalled, derives its origin from the Act founding the University of the Philippines, enacted June 18, 1908, by the First Philippine Legislature in special session. The first session of the college began in June, 1910.

The object for which the college was founded was to stimulate the study of animal diseases and conditions as applied most

especially to the Philippine Islands and to encourage the study of veterinary science to the end that the youth may take up the profession which must of necessity play an important rôle in achieving the economic development of these Islands.

The department of comparative pathology under Dean Boynton is being conducted upon a slightly different basis this year and with apparently more beneficial results. Due to the impossibility of laboratory instruction and remembering that microscopic pathological and bacteriological laboratory work is taught under their respective departments, a method of classroom lecture and recitation work has been devised for the students which concerns phases of the work which have heretofore been omitted, with the result that original thought and investigation are opened up with direct and material benefit to all parties concerned.

The college has been especially fortunate in obtaining the services of Doctor A. S. Shealy for the course in animal husbandry. Doctor Shealy has enjoyed an especially favorable and extensive experience in this field of work, both abroad and in the Philippine Islands. He is at present chief of the animal husbandry division of the Bureau of Agriculture, and is, therefore, in an especially favorable position to speak with authority on his subject.

Another valuable acquisition is represented by Doctor G. S. Tottman, who, through the kindness of the chief veterinarian of the Bureau of Agriculture, has been allowed to give the instruction in meat inspection. Doctor Tottman had considerable experience in that line in Australia and America, and at present is in charge of the slaughterhouse at Pandacan, and for this reason he is in a position to combine the results of extensive experience and theory on this subject with practical demonstrations to the considerable advantage of our students.

Doctor Youngberg, chief veterinarian, Bureau of Agriculture, has again consented to lecture on preventive veterinary medicine and veterinary jurisprudence, subjects for which he is especially fitted, both by practical and professional experience. It is through Doctor Youngberg's kindness that our fourth-year students have been given this especially valuable course based on practical experience and ability.

Professor Kretzer, we are pleased to state, is still with us on part-time basis teaching the subjects of physiology and materia medica and therapeutics.

The department of surgery is under Professor Buencamino, who is now on a part-time basis. This change from a full to

part time basis was granted last February by the Board of Regents, upon the personal application of Doctor Buencamino, who wished to engage in private practice to demonstrate to the students in particular and the public in general that the field of opportunity for veterinarians is not only with the Government service but also as private practitioners.

As a result of this privilege, encouragement has been given to students to look forward to private practice as being even more lucrative than the government service.

The department of anatomy is conducted under the supervision of one of our graduates. Doctor Gomez, instructor in anatomy, is in America doing graduate work in pathology and bacteriology, and during his absence Doctor San Agustin has been assigned to this important subject.

The anatomy course is given for two years and a half, comprising the first and second year and the first semester of the third year.

The department of theory and practice is under the direction of Professor Merchant, and embraces, in addition to the scheduled lecture and recitation work, the conducting of the free consulting clinics.

The clinics show a gradual increase over any preceding year as may be seen in the following table:

	1914-15	1915-16
Horses.....	1,726	2,527
Dogs.....	183	881
Carabao.....	46	64
Cats.....	3	6
Pigs.....	9	12
Cows.....	69	12
Chickens.....	2	4

This represents an increase of 1,069 individual cases during the year.

The students are given every encouragement and opportunity in their clinical work so that upon graduation they will be fully equipped not only in theory, but by abundant practical experience as well.

The fourth and fifth-year men are required to take clinics through the entire year. The cases are received in the receiving shed, where the attached slip is filled in for purposes of record.

The student writes the anamnesis, makes the diagnosis and prescribes the treatment. When finished, the instructor in charge either verifies or corrects the diagnosis and treatments explaining the reasons for the same. If the case requires sur-

gical attention and the student is competent, the operation is performed by the student under the supervision of the professor in charge.

All prescriptions are filled and dispatched in the drug store of the college, where the fourth-year men are required to serve alternating months in order to gain experience in drug store practice and in the correct form of writing prescriptions.

There is a course of summer work for the fourth-year students who serve as inspectors under the veterinary division in the Bureau of Agriculture. This course is made possible by permission from the chief veterinarian, Doctor Youngberg, to give employment to our fourth-year students in the capacity of livestock inspectors. The Bureau of Agriculture pays their travel expenses, and the College of Veterinary Science continues their scholarship allowance throughout the summer vacation period. By this arrangement the students are enabled to become familiar with field methods and procedure, apply some of the theory which they have learned, and fit themselves for immeasurably more efficient service against the time of graduation.

GENERAL OBSERVATIONS.

A large and as yet practically untouched field is here present and inviting veterinary research. Such interesting and economically important diseases as surra, hog cholera, swine plague, glanders, chicken cholera, parasitic skin affections, rabies, filarial infestations, and other unidentified tropical affections are prevalent and offer an interesting field of study. All of this work can be undertaken and will necessarily prove of considerable benefit to the world in general and to the Islands in particular. Dean Boynton has made extensive investigations and valuable economic discoveries in regard to rinderpest, and is still actively engaged in that work as well as with the investigation of surra, swine plague, dog distemper, and various other diseases. The field for research is very fertile and in many places untouched.

The veterinary profession is one to which the Filipino youth is not especially drawn. The character of the work in many instances tends to repel, and the general feeling toward the profession is not altogether enviable. The opportunities, however, for graduates were never better. The Bureau of Agriculture is in absolute need of an unlimited number of trained assistants; in fact they can use all that we can produce, it is estimated, for at least ten years to come. Then too, several provinces and municipalities are evincing interest to employ a

permanent man to safeguard general live-stock interests. More and more are the property owners and hacenderos coming to appreciate the value of the skilled man in animal diseases. In addition to the twenty scholarships provided for by Act No. 2302, we have this year for the first time four scholarships donated to students studying veterinary science by municipal or provincial boards and by private individuals, such as Mr. Mariano Limjap, who generously established a scholarship for five years at the rate of ₱25 per month.

This plan should be encouraged, and can be made of considerable value to the live-stock interests. The municipal and provincial veterinarians can be organized as are the state veterinarians in the United States and the Bureau of Agriculture force may be used to perform the service corresponding to the Federal veterinarians in the United States. These two organizations, as experience has shown, can, by coöperation, accomplish results which would otherwise be almost impossible. The provinces and municipalities retaining such pensionados will necessarily be the greatest beneficiaries. If this idea is encouraged, many provinces or municipalities will send students to study veterinary science, with a resultant increase in our students, and a proportionate benefit to the live-stock interests of these Islands.

Filipino veterinarians have been retained by the College of Veterinary Science, with an entrance salary of ₱2,000. This increase over the Bureau of Agriculture entrance salary is necessary to balance the per diems enjoyed by employees of the Bureau of Agriculture when away from station, and it also represents to a certain degree a preferential stimulus. The University has so far retained for service in the College of Veterinary Science the choice of the graduates. The reasons and advisability of such a course require no comment.

The Bureau of Science engaged the services of one of our last year graduates to assist in laboratory work and serum preparation with an entrance salary of ₱1,800. The field for public service is constantly increasing, and the opportunities for private practice are practically untouched.

SCHOOL OF FINE ARTS.

The School of Fine Arts, established by Act No. 1870 as a branch of the University of the Philippines, has put in practice the original plan of implanting here the teaching of the plastic and graphic fine arts and their ramifications.

In the preparatory classes, the school gives the students the

greatest facilities to learn elementary drawing at any hour from 8 to 12 noon, from 2 to 6 in the afternoon, and from 6 to 8 in the evening.

CURRICULUM.

In addition to the preparatory or elementary class in drawing, which embraces decoration, landscape, and the painting of animals, flowers, plants, and the human figure, the school has also the special and higher study classes, as follows: Drawing of ancient and modern statuary; nature drawing from live models, higher landscape and carbon drawings (excursions and studies in the field); coloring and pictorial composition (from live models); decorative painting, lower and higher; ancient and modern statuary modeling and casting; modeling and casting from nature, live model and sculptural composition; engraving incised or in relief (medals and coins), etchings, etc. (elementary and higher), management of the reducing machine; pictorial anatomy, artist's anthropology and science of expression; applied perspective in Fine Arts.

ACCOMPLISHMENT.

The enrollment of the last academic year was 986 and for the period of five years from 1911 to 1915, the total enrollment was 4,294 with an average of 872 students during the quinquennium. The school graduated last year 6 in painting and 1 in engraving. The total number of graduates since 1913 is: 12 in painting, 5 in sculpture, and 6 in engraving. As can be seen, the number of graduates is comparatively small, and this is due, in my opinion, mainly to the fact that the great majority of students entering the school either are not qualified to pursue this career regularly or abandon the school before they obtain a proper certificate of studies in order to seek employment as draftsmen, sculptors, painters, or engravers. These few graduates, however, have given credit to the school by their efficient work in government offices and in private concerns. One of them was appointed as instructor in the school.

GENERAL OBSERVATIONS.

I believe this school, in general, is doing creditable work under the circumstances. The paintings which obtained prizes at the end of the academic year speak highly of the ability of both students and instructors. Last year the school was visited by a number of foreigners interested in fine arts; the Governor-Gen-

eral and the Secretary of Public Instruction also inspected the school and all expressed their great satisfaction with the work of the students. However, the school could be further developed if it was furnished with all the necessary means. We need an adequate building where we can begin to establish our artistic museum. Moreover, it is necessary to raise the standard of the school by fixing certain requirements for entrance in order to push forward the teaching of the artistic professions. With this idea in mind, the Board of Regents has recently adopted a resolution to the effect that for the college year 1917-18, no new student shall be admitted to the School of Fine Arts who has not finished studies or courses equal to those taught in the primary grades of the public schools; and that for the year 1918-19 no new student shall be admitted who has not finished studies or courses equal to those taught in the intermediate grades of the public schools.

In the appendix to this report I have made some remarks in connection with our School of Fine Arts which are omitted here to avoid repetition.

UNIVERSITY PROFESSORS.

Speaking of University professors, I desire to express to them my sincere gratitude for their interest in giving wise direction to the students and for their efforts in enhancing the name of the University. Many of them, in spite of the great pressure of class work, have contributed with their study to the advancement of science and to the welfare of mankind. Others have taken such interest in their students that they gladly aided them financially as well as helped them to find work whereby they might continue their studies. Some of them have willingly consented to give lectures of a popular character on subjects of unquestioned public utility such as "A study in individual differences" by Prof. F. Benitez; "Italy and the European War" by Mr. Fernandez; "Practical Ethics," by Dr. E. B. Copeland; "The Educational and Practical Value of the Science of Anthropology," by Assistant Professor Beyer; "Public Health Work," by Doctor Clements; and the "The Determiners of Hereditary Characters and their Transmission from Parents to Offspring," by Doctor Cowles.

This school year, these lectures have been adopted as a regular feature of University activities. It is to be hoped that the public at large will take advantage of the opportunity of hearing these interesting lectures.

Teaching force of the University during the academic year 1915-16.

	Profes- sors.	Asso- ciate profes- sors.	Assist- ant pro- fessors.	Lectur- ers.	In- struc- tors.	Assist- ants.	Total.
College of Medicine and Surgery	11	6	9	8	13	29	76
College of Liberal Arts	2	4	8	1	13	6	34
College of Law	2		1	9	2	1	15
College of Agriculture	4	2	5		10	16	37
College of Engineering	2	2	3		4	3	14
College of Veterinary Science	1		3	4	2		10
School of Fine Arts					10		10
Total	22	14	29	22	54	55	196
Average salary of teaching staff	P5,850	P4,679	P2,935	(a)	P2,254	P814	

^a Received P5 per lecture hour.

SALARY.

An examination of the appropriations for the various departments of the Government, corresponding to the year 1916, will show that the employees of the University of the Philippines receive comparatively small emoluments.

The determination of salaries of the teaching staff is one of the most difficult questions that the University must solve. The small income of the University from its fees and the contribution which it receives from the Government are important factors which should be considered in the solution of this problem. If we should reduce the expenses for salaries of the teaching staff, we could increase the amount to be used for buildings, equipment and laboratory supplies. On the other hand we should bear in mind that we are in the period of formation of a permanent faculty, and for this reason, we should attract to the University the most competent men available by offering them such emoluments as will prevent them from seeking more lucrative positions.

It is well known that economic pressure on a University professor disturbs a life which should be devoted to observation and study, and that a continually changing teaching staff is also a drawback to the progress of teaching. In addition, the work of the University professor requires not only knowledge and the ability to transmit it, but also a deep interest in the welfare of the institution, love for its ideals and great zeal for its reputation and good name. None of these can be expected of a man who feels that he is in the University only for the time being, and who is not altogether satisfied with his position because he sees no future in it.

The small number of men among us available for appointment on the University faculty, is another factor which should be considered in this connection. As we use the English language

in our instruction, many Filipinos who have been educated either here or abroad, but do not know the English language, are not qualified for University work. There are others who prefer to take up a political career in which the services rendered are generally rewarded by the flattering applause of the masses, and honors, while a University professor who works patiently and silently in his laboratory hardly ever secures the recognition which his painstaking and constructive work deserves.

The importance to the country, as well as to the University, of developing a permanent University Faculty composed of men who, by their personal character, as well as experience and academic preparation, can command the respect of the community and inspire our future leaders with personal and national ideals, is known to every one.

For this purpose, it will be necessary, in the first place, that the present high requirements for appointment to the faculty be maintained. In the second place, it will be necessary to make the tenure of office so secure and the compensation so adequate that highly qualified men may be attracted to, and kept in, the University.

As long as teaching in the University is not given recognition equivalent to that received by many pursuits of life that require less preparation, less exaction in health and energy, then so long will the members of the faculty leave the University for business, law, medicine, politics, and other occupations better compensated and more highly honored by society.

We should also bear in mind that the members of the faculty are expected by social conventions to maintain a higher standard of living than men belonging to other professions in order that they may command the respect of the community. For all these reasons I believe that the faculty of the University should be remunerated in proportion to the value of their service and sacrifice in behalf of the student body and the commonwealth.

Equalization of salaries.—Up to the present time we have had no uniformity of salaries in the University for the members of the faculties or even among members of the same rank. It appears that, in the beginning, the policy of the Board of Regents was to fix the minimum and maximum salaries for the different ranks and within this scale give to each member of the various faculties a salary according to his merit. The result of this system is that persons of the same rank, assistant professor or instructor, for example, usually receive different salaries. Although the system seems to be based on individual merit, nevertheless, it is not exempt from criticism, particularly because it offers the temptation to solicit frequent increases in salaries

until the maximum salary attached to the position is reached. This condition is a cause of great dissatisfaction among the members of the faculties. Besides, the annual increase of salaries, no matter how well justified it may be on the score of individual merit, involves an annual increase of the appropriation for salaries. In order to avoid this inconvenience as far as possible, the Board of Regents has recently changed this policy and has fixed only one salary for the different ranks in the teaching staff, and unless qualification for promotion in rank is evident, no more than the salary fixed for the position actually held will be paid. With this new plan it is to be hoped that the salaries accompanying positions of the same rank will be equalized, and our appropriation for salaries will also be standardized. Furthermore, the members of our faculties instead of feeling obliged to seek yearly promotion in salary, will endeavor to make their services of such merit as will warrant their promotion to the next higher rank, which naturally carries with it a larger salary.

SUMMER VACATION.

During the summer vacation the members of our faculty who are on accrued leave basis continue to come to their offices to do research work and to make preparation for their courses for the coming school year. However, last year some of these professors were authorized by the undersigned, without any additional cost to the University, to spend their summer vacation in places other than the University, where they could secure extended and valuable information in connection with their investigations. For example, Professor Scheerer, who is interested in the study of the native dialects, spent part of the summer in Baguio studying the dialects of Igorots, and Professors Rowley, Craig, Light, West, Reynolds, and Snow were authorized to spend their vacation in Japan to broaden their knowledge in their own special subjects. In my opinion this innovation has given the satisfactory result which was expected. Our professors have thus enjoyed new experiences and returned in better health and as a consequence have been of increased economic value to the University. Another advantage such a policy offers is that the professors who spend their vacations away from the University may enhance the reputation of our institution. This has especially occurred in the case of Professor Reynolds, who has given a series of lectures on "Power Engineering" in the Meiji College of Technology in Japan. And in our country, if our professors were allowed to visit the provinces in connection with the work of their own special subjects, they would render

a valuable service directly to our people by giving lectures of a popular character on subjects of general interest to the public.

ACCRUED LEAVE.

The enjoyment by members of the faculties of five months' accrued leave in the United States, including the two months allowed for the trip and return, is a source of difficulty in the efficient administration of our colleges. Even when the enjoyment of accrued leave is made to coincide with our summer vacation, as is generally done, it nevertheless results in the absence of professors for about two months from their class work. This inconvenience, however, is compensated by the advantages mentioned above. With the small faculty that we have, it is not, however, easy to solve the problems caused by the long vacations of our professors. For the present we have to make the best of the situation by substituting instructors in place of the professors on leave. But it is to be hoped that this condition will be remedied as soon as we are able to afford to make appointment of an assistant professor for each of the heads of the various departments.

STUDENT BODY.

It is a pleasure to report that the student body, as a whole, is constantly improving from year to year, in physical fitness and intellectual ability.

ATHLETICS.

The acting dean of the College of Engineering says:

Coöperation and determination on the part of the students was notable and during this period the Students' Engineering Association had a rebirth. Students of the Engineering College showed great interest in athletics not only in looking on from the side lines, but in actual participation.

"Interest," the Director of Physical Education adds, "was keen last year in every line of recognized athletic activity and a well-marked improvement in all lines of sports can be noticed over preceding years. Not only is this true on the athletic field but it is equally true regarding 'college spirit,' as expressed by the student body. Last year, for the first time, there was a regular cheering section at all of the important games and this in no small degree helped the team to win. It seems certain that as time goes by, a united spirit will prevail in the student body, now that the way has been learned."

Again, the dean of the College of Agriculture observes:

In the various lines of student activities, the students of this college seem to have acquitted themselves well last year. The publication of the *Agriculturist* and *Forester*, which is their most notable achievement,

has been kept up. In the exposition of January last, the students acquitted themselves with great credit, as they have also done on the "At-Home Days", when they had an opportunity to receive a number of guests. In athletics, they competed with the students of other colleges in baseball, basket-ball, tennis, and in the field-day events. In two of these four, baseball and basketball, they won first place and in field day events were second to the College of Engineering. When six colleges are eligible to a competition, the one college which wins half of the contests should be satisfied. In this particular case, the victory is more creditable because it was accomplished without a coach, while the Manila colleges are provided with one. The most pleasing feature of the athletic situation in this college is that the students' interest taken in athletics is their own. No member of the faculty has made it his business to get them out for training, and except for the voluntary but very valuable advice given by Mr. Gillis to the basket-ball team, our boys have practically done all their athletic work on their own initiative, and without outside help.

PHILIPPINENSIAN.

Another important accomplishment of the student body which is worthy of mention is the publication of the University annual entitled "The Philippinensian." For the edition of this annual, the colleges, by a rotation system, select from their members the editorial staff. The main object of this publication is to furnish a common tie that shall bind together the hundreds of students in the different schools and colleges of the University and to give to the people who, at great sacrifice, are supporting the Institution, some idea of the manifold activities of the University and the results attained.

STUDENTS' COÖPERATIVE ASSOCIATION.

In order to help the needy students in the University, the Board, on the recommendation of the undersigned, after hearing the favorable opinion of the different deans and of the students' welfare committee, authorized the establishment of the "Students' Coöperative Association." The main objects of this organization Coöperative Association." The main objects of this organization are: (a) To encourage self-help among the students through coöperation; (b) to raise funds for the general welfare of the students; and (c) to help the students to find work for their support.

The board of directors of this association consists of one representative from each college or school elected annually by the student body, and three members of the faculty appointed by the President of the University. The board elects its own chairman and secretary, who are the executive officers of the association. Its powers and duties are: (a) To make arrangements with book stores, clothing and shoe stores, and other business houses whereby the members of the Association will be allowed

a discount on purchases; (b) to collect the discounts from such stores as have agreed to allow them; (c) to dispose of this money for such purposes as the majority of the members may determine; (d) to give financial aid to students as is deemed convenient; (e) to furnish each member with a book in which the amounts of purchases are entered; (f) to collect information about remunerative work which members may be qualified to do; and (g) to submit a semiannual report to the Association. The faculty advisory committee on students' welfare acts as advisory committee to the association. It is interesting to note that many of the most important stores in the city have expressed their willingness to coöperate with this organization, and it is to be hoped that when it assumes its full functions it will be of some help to poor students. It is believed that the establishment of this association will train the students in the practice of self-denial for the benefit of the community in which they live. The amount of money accumulated may not be great, but the moral value of such an organization will be incalculable.

STUDENTS' TRUST FUNDS.

The establishment in the University of a "students' trust fund" was also authorized by the Board of Regents, on the recommendation of the undersigned, the main purpose of which is to help the parents of students and to give protection to the latter by giving them a safe place where they can deposit their money. Generally, under the present practice, University students receive direct from their parents the money with which to pay their board and lodging. A study of student life and its activities has disclosed the fact that these funds have oftentimes been applied by the students to uses other than those for which they were intended, and consequently it is common to find in the student body some who are without means to meet their financial obligations at the end of the month. The adoption of the plan as outlined below not only does away with this irregularity on the part of the students, but assures the parents that the money which they provide, perhaps with great sacrifice, for the education of their children is properly expended. It also furnishes a safe and convenient place for those students who may desire to save their money from the temptations of city life.

In this connection, it is to be noted that this system of a "students' trust fund" is not new in the history of the universities of the world. The practice prevails in many of the leading universities of the United States. Moreover, as such funds are administered by the University in accordance with the principles and practice of banking institutions, it will furnish a good

field of practice for the University students who are taking courses in business administration. It will also place in the hands of the University authorities an effective means of controlling the conduct of students, and of forming their character—a duty which the University should perform not alone for its own good but also for the benefit and protection of both the students and their parents.

The following plan covers its operation: (a) The money is deposited with the Secretary of the University and is acknowledged by the issue of an "official receipt." (b) The funds are known as the "students' trust fund" and are deposited in the Insular Treasury. (c) Disbursement of these funds is by "cash" from the usual "advance" made each month by the Insular Auditor to the Secretary, credit therefor being taken in the usual manner as prescribed by the existing regulations of the Auditor. (d) The instructions of parents, as to the amount of money to be paid the student each month or to be paid direct to the person with whom the student boards and lodges, is strictly followed. Students depositing funds on their own responsibility make withdrawals at any time. (e) The office of the chief accountant keeps an individual record card for each student. This card shows the name of the student, the amounts and dates of deposits and withdrawals, the serial number of receipts given on deposit and taken on withdrawal, and notations as to any instructions given by parents or guardians. (f) The operation of this plan is under the management of the Secretary of the University, who is bonded with the Insular Treasury in the amount of ₱15,000.

Enrollment of students during five years.

	1911	1912	1913	1914	1915
College of Liberal Arts	215	200	317	391	429
College of Medicine and Surgery	56	73	104	113	159
School of Pharmacy				54	74
Graduate School of Tropical Medicine and Public Health				22	57
School of Dental Surgery					10
College of Agriculture	186	253	294	375	444
College of Veterinary Science	14	27	31	28	30
College of Engineering	11	5	12	40	47
College of Law	154	146	143	141	212
Total	636	704	901	1,164	1,465
Duplications	37				50
Net total	599	704	901	1,164	1,415
School of Fine Arts	801	694	602	911	986
Grand total	1,400	1,398	1,503	2,075	2,401

The figures given in the preceding table will show how the number of students has been gradually increasing in all the colleges. Without including the enrollment in the School of

Fine Arts, it will be seen that since 1911 the annual average increase is 21 per cent over the preceding year, and the colleges where this increase is most notable are medicine, liberal arts, agriculture, and law. The growing increase of students in the College of Agriculture undoubtedly reveals a tendency on the part of our youth to devote their energies towards the cultivation of our fields. It seems to be pertinent to state that in order to maintain the enthusiasm of the students in the College of Agriculture it is necessary to help the poor students taking courses therein. There are about 200 students who are partly or entirely self-supporting, by working in the field as laborers.

PENSIONS.

On March 1, 1916, I sent a circular letter to the provincial governors of Albay, Bulacan, Cagayan, Capiz, Cavite, Ilocos Sur, Leyte, Laguna, Nueva Ecija, Occidental Negros, Pangasinan, Pampanga, Rizal, Tarlac, and Tayabas enclosing a list of students in the College of Agriculture from their respective provinces who, according to information received from the dean of that college, were without means to continue their studies, so that they were compelled to devote part of their time to some employment in order to support themselves. Some of the municipalities concerned have adopted resolutions establishing pensions for the students of their municipalities; others could not because of their poor financial condition. There are still many students in this college who need help. Agriculture as a branch of learning, however useful and necessary it may be for the development of our internal resources, is the career least coveted by our youth, and therefore the earnest coöperation of all must be extended to the poor students who have chosen this profession, thus relieving them from all possible hardship and stimulating them in their work.

Enrollment of students during 1915-16, classified by sex and nationality with their average age.

	Medicine and pharmacy.	Veterinary.	Engineering.	Law.	Agriculture.	Liberal Arts.	Fine Arts.	Total.
Total students enrolled	298	30	47	205	444	391	986	2,401
Male	225	30	47	203	444	328	953	2,280
Female	73			2		63	33	171
Americans	12			14	1	13	3	43
Filipinos	285	30	46	190	433	372	980	2,342
Other countries	1		1	1	5	5	3	16
Average age of students years.....	23	21	22	23	20	20	15	22

Average age of students in the whole University.....years.... 22

It is seen from the preceding table that Filipino women are as anxious to acquire scientific knowledge as their brothers. Last year, there were 171 girl students in the Colleges of Medicine, Pharmacy, Law, Liberal Arts, and School of Fine Arts.

DIRECTOR OF WOMEN.

In view of the increasing number of women entering the University, it was found necessary to appoint directors of women to supervise and give wise advice to the girls. To this position Dr. Maria Paz Mendoza-Guazon was appointed as director of women and Miss Ramona S. Tirona as vice-director, both of whom are eminently fitted for the position. Doctor Mendoza-Guazon is a member of the faculty of the College of Medicine and Surgery and is in charge of women students in that college, while Miss Tirona is a member of the teaching staff of the College of Liberal Arts and has supervision over the women in University Hall.

The duties of the director and vice-director of women consist of supervision over the moral and social welfare of the young women students of the University. They supervise the individual work of the girls, securing all necessary information from the registration papers and record cards of each student. They also keep the record of any change of address, so that they may know where to locate the girl at any time. Besides, the directors of women control the social life of the girls. They have knowledge of the gatherings which the girls wish to attend and by whom they are entertained, so when criticism arises their records may be consulted.

The most important work of the directors of women with the girls of the University is the maintaining of friendly relations among them and the exerting of personal influence by giving advice relative to studies and conduct in the University, assuming in a sense the maternal responsibility toward the girl while she is in the University.

Geographical distribution of students, 1915-16.

Province.	College of Medicine and Surgery.	School of Pharmacy.	School of Dentistry.	Graduate School of Tropical Medicine and Public Health.	College of Veterinary Science.	College of Engineering.	College of Law	Post-graduate review course, law.	College of Agriculture.	College of Liberal Arts.	School of Fine Arts.	Total.
Agusan.....						1				1		2
Albay.....	4	1		1			2		10	6		23
Antique.....									2	1		3
Bataan.....	2	1			1		1		1	1		10
Batangas.....	13	9		4	2	6	6	5	55	24	5	129
Bohol.....	1								7	3		11
Bulacan.....	14	4	2	6	2	2	16	4	25	27	22	124
Cagayan.....	2	2			2		4	1	17	9	3	40
Camarines.....	1					1	3		6	7	2	20
Capiz.....	1		1			1	3		9	7	3	25
Cavite.....	13	1	1		3		3	3	26	15	4	72
Cebu.....	7			1		8	3		4	9	2	34
Ilocos Norte.....				1	1		9	1	10	17	8	47
Ilocos Sur.....	2	1		3		1	5	1	6	13	4	36
Iloilo.....	11	2		1	1		8	1	11	15	6	56
Isabela.....									8			8
Laguna.....	8	10		3		2	8	2	30	13	9	85
La Union.....				2	5		5		21	8	3	44
Leyte.....				1					8	3	6	18
Manila.....	18	8	3	16	1	3	28	5	12	62	822	978
Mindanao.....											3	3
Mindoro.....	1	1					1	1	2	3		9
Misamis.....	1								1	6		8
Mt. Province.....	1								1			2
Nueva Ecija.....	4	3		3	1	3	8	5	23	18	7	75
Nueva Vizcaya.....	1				1				4			6
Occ. Negros.....	5	2		3	1	3	9	1	12	12	2	50
Or. Negros.....							1				2	3
Palawan.....							1		2	2		5
Pampanga.....	11	16	2	3	4	3	8	2	9	32	14	104
Pangasinan.....	6	3		2			8	2	44	31	15	111
Rizal.....	8	8			1	8	4	2	35	15	26	102
Romblon.....									2			2
Samar.....							1	1	2	2		6
Sorsogon.....		1				1			1	1	3	7
Surigao.....	1						3	1		3		8
Tarlac.....	7	2			2	2	4		5	6	1	29
Tayabas.....	7	7	1		2	1	4	2	15	16	7	63
Zambales.....	2			1		1	5	1	18	5		35
Zamboanga.....	1						1			1	2	6
Total.....	153	77	10	56	30	47	163	41	444	394	986	2,401

Distributing the students by provinces, it will be seen that Manila has 978 students, including 822 of the School of Fine Arts; following in importance, there are the Provinces of Batangas with 129, Bulacan with 124, Pangasinan with 111, Pam-

panga with 104, Rizal with 102, Laguna with 85, Nueva Ecija with 75, Cavite with 72, Tayabas with 65, Iloilo with 63, Occidental Negros with 50, Ilocos Norte with 47, La Union with 44, Cagayan with 40, Ilocos Sur with 36, Cebu and Zambales with 34 each, not to mention other provinces whose number of students does not reach the last figure. It will be observed from the foregoing table that all provinces of the Archipelago are sending students to the University, an indication that all of our provinces share the benefits of University teaching.

Degrees conferred by the University.

	1908	1909	1910	1911	1912	1913	1914	1915	Total.
Bachelor of arts			4	16	12	49	83	102	266
High school teacher's certificate							1	10	11
Bachelor of agriculture			2	4	7	9	15	12	49
Graduate in pharmacy						8	4	19	31
Bachelor of science			1	1	2	4	12	12	32
Bachelor of laws					19	18	34	20	91
Master of arts					4		2		6
Master of science					1			3	4
Civil engineer							2	1	3
Doctor of veterinary medicine						5	2	4	11
Doctor of medicine	8	12	3	9	8	9	16	5	70
Doctor of tropical medicine							2	5	7
Doctor of science (honorary)				1					1
Doctor of laws (honorary)			1		1	1			3
Total	8	12	11	31	54	103	173	193	585

^a Graduates of Philippine Medical School prior to consolidation with the University of the Philippines.

Certificates conferred by the University.

	1911-12	1912-13	1913-14	1914-15	1915-16	Total.
Painting			4	2	6	12
Sculpture			1	4		5
Engraving			1	4	1	6
Second-class midwives					21	21
Graduates in midwifery					7	7
Graduates in nursing					50	50
Rangers	16	26	30	18	24	114
Graduate instruction			5	18	12	35
Total	16	26	41	46	121	250

As the number of students matriculating is growing, the number of graduates is also proportionally increasing. The number of degrees conferred in 1910 was 11, which has steadily increased to 193 in 1915. In comparison with other universities, this number may appear insignificant, but if we consider that our University has only reached the eighth year of its existence, we may feel satisfied with the accomplishment attained. The

same thing may be said with respect to certificates issued by the University. In 1911 there were issued 16 certificates of studies and gradually the number has increased to 121 in 1915, making a total of 250 certificates.

One important subject that should be discussed in connection with our graduates is the distribution of their grades by subjects as well as by colleges. The collection of data and the preparation of tables in connection with this investigation require time. Investigation has already been started, but, at the time of printing this report, there are not enough facts available to warrant any conclusion. It is expected, however, to systematize this work in all colleges, using a form which is now being prepared by the undersigned.

Degrees conferred by the University as represented by each province during the academic year 1915-16.

Provinces.	Bachelor of arts.	High-school teacher's certificates.	Bachelor of agriculture.	Graduates in pharmacy.	Bachelor of science.	Bachelor of laws.	Master of arts.	Master of science.	Civil engineer.	Doctor of veterinary medicine.	Doctor of medicine.	Doctor of tropical medicine.	Total degrees conferred.
Albay	1					1							2
Ambos Camarines	1												1
Bataan	2	1											3
Batangas	1		2	1	1					1	2		14
Bulacan	6	1	1	1	2	1					1		12
Cagayan		1	1	1	1	1							4
Capiz	3												3
Cavite	5	2				2				1	1		11
Cebu	1				1	1							3
China	1					1							1
Ilocos Norte	7												7
Ilocos Sur	6		2			2							10
Iloilo	2				1	1							4
Isabela					1								1
Laguna	3	1	1	2	1	3							11
La Union	3		1										4
Leyte	1												1
Manila	7	2		5		1		1	1		1	4	22
Marinduque	2					1				1			4
Mindanao	1					1							1
Mindoro	2												2
Misamis	2												2
Nueva Ecija	3												3
Occidental Negros	3					1				1			5
Palawan			1										1
Pampanga	9			8	1	2						1	21
Pangasinan	3												3
Rizal	4	1	3		1			1					10
Samar	2												2
Sorsogon	1			1									2
Surigao	1												1
Tarlac	2				1	1							4
Tayabas	7	2		1	1	1							12
Zambales	4					1		1					6
Total	102	10	12	19	12	20		3	1	4	5	5	193

Certificates conferred by the University as represented by each province during the academic year 1915-16.

Provinces.	Painting.	Sculpture.	Engraving.	Second-class midwives.	Graduates in midwifery.	Graduates in nursing.	Rangers.	Graduate Instruction.	Total certificates conferred.
Albay				1					1
Ambos Camarines				1	2	2			5
Bataan					1				1
Batangas				1		1		2	4
Bohol					1	2			3
Bulacan	2			1	2	2	2	3	10
Cagayan				2		1			5
Capiz				1			1		2
Cavite						4	1		5
Cebu						2		3	2
China							3		3
Guam							2		2
Ilocos Norte						7			7
Ilocos Sur						2		1	3
Iloilo					1	1		1	3
Isabela						2	2		4
Laguna				1				1	2
La Union				1		1			2
Leyte						3			3
Manila	2					2		2	6
Mindoro						1			1
Nueva Ecija				2		2	2		6
Nueva Vizcaya				1		1			2
Occidental Negros				1	1	2	1	1	6
Oriental Negros				1		1			2
Pampanga	1		1			2			4
Pangasinan				2	1	1	4	1	9
Rizal	1			2		2	2		7
Samar				1		1			2
Sorsogon				1					1
Tarlac						1	1		2
Tayabas				1		3			4
Zambales						2	1		3
Total	6		1	21	7	50	24	12	121

The two preceding tables show how the University degrees and certificates of study are distributed by provinces. It will be noted that the students who finished their courses last year came from all the provinces of the Archipelago. Manila is at the head with 22 graduates. Following in number are Pampanga with 21, Batangas with 14, Bulacan and Tayabas with 12 each, Cavite and Laguna with 11 each, Ilocos Sur and Rizal with 10 each. The number of graduates of other provinces varies from 1 to 7.

The students who were given certificates of studies, distributed by provinces, came from Bulacan with 10, Pangasinan with 9, Ilocos Norte and Rizal with 7 each, Manila, Nueva Ecija and Occidental Negros with 6 each, and other provinces with students the number of whom varies from 1 to 5.

UNIVERSITY ALUMNI ASSOCIATION.

As has been said elsewhere in this report, the total number of students who have been given a University degree, reaches 585. The graduates form the University Alumni Association,

organized in 1913 by Dean Malcolm, with the coöperation of Dr. José Hilario, and Messrs. Jorge Vargas, Alexander Reyes, and Victoriano Yamzon, then members of the College of Law. The association has for its objects to maintain friendship and companionship amongst the graduates, to foster University spirit, and to safeguard the good name of the Alma Mater. Immediately after the last commencement exercises, the association held a banquet which was attended by about 150 graduates in addition to the Dean and members of the Faculties of the University. The reunion proved to be a brilliant success, and I am sure that the event will always be remembered with pleasure by the sons and daughters of the University.

In order to foster the interest of our graduates in the progress of this University, I believe it proper to propose the appointment of an alumnus as a member of the Board of Regents. It is generally admitted that the welfare of a University depends to a great extent upon the interest of the alumni, and it seems to me that the most effective way to foster in them this interest is to give them a participation in the management of the University affairs. I am fully convinced that our alumni know how to comply with their duties toward their Alma Mater, and the University should have a conspicuous place reserved for the most illustrious alumni that come from its halls.

Physical condition of students.

	1915				1916				General percentage.			
	Good.	Fair.	Poor.	No information.	Good.	Fair.	Poor.	No information.	Good.	Fair.	Poor.	No information.
General appearance	239	15	1	---	841	39	1	---	94	5.9	0.1	---
Physical development	211	43	1	---	687	192	2	---	80.3	19.3	.4	---
Nutrition	232	20	3	---	698	178	5	---	85	14.6	.4	---
Condition of—												
Head, face, and neck	233	3	---	19	875	6	---	---	95	.9	4.1	---
Chest	239	15	1	---	864	15	2	---	95.8	3.8	.4	---
Heart	252	2	---	1	874	5	2	---	98.9	.7	.2	2
Abdomen	253	2	---	---	879	2	---	---	99	1	---	---
Nervous system	255	---	---	---	880	1	---	---	99.95	2	.05	---
Mouth and teeth	201	6	46	2	811	25	45	---	84	2	14	---
Lungs	246	8	1	---	867	11	3	---	97.5	2.05	1	.45
Skin	235	8	11	1	857	11	13	---	94.5	2	3.3	.2
Liver	255	---	---	---	881	---	---	---	100	---	---	---
Spleen	253	---	---	2	880	1	---	---	99.55	.05	---	.4
Total examined	255				881							

For the purpose of determining the physical condition of the students, it may be interesting to consider the data resulting from their medical and physical examinations held at the time they entered the University. It is to be noted in this connection that these examinations, at the present time, are not

exempt from many difficulties. The work is being systematized in the Colleges of Medicine and Surgery, Liberal Arts, and Agriculture, and we hope to be able to present in the near future a complete physical record of all the students. The number of students examined during 1915 was 256, and this year the number reaches 881, with a total of 1,137 students. The general result shows that the students are in good physical condition: in general appearance; physical development; condition of face and neck; condition of chest, heart, abdomen, nervous system, and mouth and teeth; as well as in nutrition, lungs, skin, liver, and spleen.

Appetite, general health, and sleep of students.

	1915				1916				General percentage.			
	Good.	Fair.	Poor.	No information.	Good.	Fair.	Poor.	No information.	Good.	Fair.	Poor.	No information.
Appetite	224	18	4	31	783	136	7	12	82	10	1	7
General health	208	17	5	47	727	184	10	17	76	13	1	10
Sleep	227	2	14	34	821	99	6	12	85	5	2	8
Examined	277				938							

Hours of sleep.	1915	1916	General percentage.
4 hours		6	3
5 hours	7	24	3
6 hours	28	157	14.4
7 hours	85	343	33
8 hours	106	327	36
9 hours	15	59	5.7
10 hours	2	12	.9
No information	34	10	6.7
Examined	277	938	

As regards the appetite, sleep, and general health it may be said, examining the preceding table, that our students are in the most desirable condition; 82 per cent of them have a good appetite, 76 per cent are found in good health, and 85 per cent sleep perfectly well. Some of them rest less than six hours a day and others take a rest for nine and even for ten hours: but the great majority have an average of six, seven, or eight hours of sleep per day with a proportion of 14.4, 33, and 36 per cent, respectively.

Under the principle *mens sana in corpore sano* I believe that the figures shown in the two preceding tables furnish us excellent grounds to expect that the efforts being put forth to develop the physical and mental condition of our students, will be crowned with success.

Diseases of students in general.

	1915			1916			General percent- age.		
	Positive.	Negative.	No informa- tion.	Positive.	Negative.	No informa- tion.	Positive.	Negative.	No informa- tion.
Tuberculosis in student or his family	17	238	-----	67	814	-----	7.16	92.84	-----
Malaria in student or his family	29	222	4	71	810	-----	9	90	1
Veneral diseases	-----	243	12	1	880	-----	.1	97.4	2.5
Fever at time of examination	1	249	5	-----	881	-----	.02	99	.98
Examined	255			881			-----		

As has been stated, the students are also given a medical examination. The preceding table shows that out of 1,138 students examined during the year 1915-16, 93 per cent were negative for tuberculosis and 7 per cent were positive; regarding malaria, 90 per cent were negative, 9 per cent positive, and 1 per cent with no record; as to venereal diseases, 97.4 per cent were negative, 0.1 per cent positive, and 2.5 per cent with no record. The object of this medical examination is self-evident. Students suffering from contagious diseases are not admitted in our halls and those suffering from tuberculosis or malaria are given leave of absence from the University. In some cases arrangements were made whereby the patient was sent, without expense to him, to Baguio.

As regards the venereal diseases, the preceding table gives us a proportion of 0.1 per cent of positive cases—that is to say, 1 for every 1,000 students. If we bear in mind that the average age of students in the University is 22, the period of storm and stress in life, it may well be said that the proportion thus obtained speaks highly of the conduct of our students.

Use of beverages and tobacco.

	1915				1916				General percentage.			
	Yes.	Moderately.	No.	No infor- mation.	Yes.	Moderately.	No.	No infor- mation.	Yes.	Moderately.	No.	No infor- mation.
Tea	25	45	178	29	117	115	684	22	10.5	14	69	6.5
Coffee	93	86	97	1	297	186	444	11	32.85	25.5	41	.65
Tobacco	37	21	185	34	93	90	741	14	11	8.5	73.5	7
Alcohol	-----	3	238	36	-----	19	888	31	-----	1.5	90.5	8
Examined	277				938				-----			

The general percentage shown in the preceding table may serve to give us an idea of the influence of the use of tea, coffee,

tobacco, and alcohol on the mind and health of the students. The general percentage is as follows: 10 per cent use tea, 14 per cent use it moderately, and 69 per cent do not use it all, the remaining 7 per cent with no record. As to the use of coffee, we have 33 per cent using coffee, 25 per cent moderately, 41 per cent negatively, and 10 per cent with no record. As regard to the smoking of tobacco, the percentage is 11 per cent affirmatively, 8 per cent moderately, 73 per cent negatively, and 8 per cent with no record. Finally we have the following percentage concerning the use of alcohol: 1 per cent drink it moderately, 91 per cent do not drink it at all, and 8 per cent without record.

Ideals that students desire to resemble.

	College of Medicine and Surgery.	School of Phar- macy.	College of Law.	School of Dentis- try.	College of Engi- neering.	College of Veteri- nary Science.	College of Liberal Arts.	College of Agricul- ture.	Total.	Total average per- centage.
Students examined	146	47	67	8	56	35	278	334	971	-----
Filipino ideals:										
Parents	33	20	5	3	16	13	11	85	186	19
Friends and relations	14	11	2	4	6	4	38	37	116	12
Public character	64	14	37	-----	18	8	71	155	367	38
Total	111	45	44	7	40	25	120	277	669	69
Foreign ideal:										
Public character	30	1	18	1	15	8	152	54	279	29
Religious character	5	1	5	-----	1	2	6	3	23	2
Total	35	2	23	1	16	10	158	57	302	31
Reasons given by students:										
General goodness and moral qua- lities	135	44	58	8	43	24	219	297	828	85
Positions	5	1	5	-----	5	3	40	8	67	7
Personal appearance	3	1	1	-----	4	3	16	9	37	4
Material possession	3	1	3	-----	4	5	3	20	39	4
Total	146	47	67	8	56	35	278	334	971	100
Profession that students desire to pursue:										
Commercial business	4	5	9	-----	8	2	22	6	56	6
Agriculture	5	1	11	-----	9	8	25	264	323	38
Industry	1	5	-----	-----	3	2	3	7	21	2
Liberal profession	133	25	35	8	36	23	192	43	495	51
No information	3	11	12	-----	-----	-----	36	14	76	8
Total	146	47	67	8	56	35	278	334	971	100

What ideals do the students of the University of the Philippines desire to pursue? The answer to this question may be found in the preceding table, compiled from information given by the students.

Though it has not been possible to examine all the students because of the difficulty of gathering them together at one time, I believe, however, that the figures we have at hand allow us to make some remarks on their ideals.

NATIONALIZING INFLUENCE.

Examining the total of these figures, it will be noted that out of 971 students examined, 669 are inspired by Filipino ideals, while 302 have preference for foreign ideals, with a proportion of 69 and 31 per cent, respectively. If we consider these figures by colleges, it will be seen that in all colleges, the College of Liberal Arts excluded, the Filipino ideals prevail. What is the explanation of the fact that students of the College of Liberal Arts prefer foreign to Filipino ideals in a proportion of 56 per cent against 43 per cent? In my opinion, this is but a natural result of the kind of literature taught to students before entering that college. As students in the high schools or other schools of the same grade, which prepare students for this University, are generally taught foreign literature, they are deeply influenced by the ideals portrayed in it. But, the longer the time spent by the students in the University, the greater the nationalizing influence of this institution upon their character, as is shown in the Colleges of Medicine and Law where the proportion of Filipino and foreign ideals is 76 and 24 per cent, respectively, in the former, and 65 and 35 per cent in the latter. This is a corroboration of the fact that the great centers of learning are essentially national institutions; this shows, I repeat, that our University as an institution founded and maintained by what we might call a Filipino State, embodies the ideals of the State, the first of which, and the most fundamental, is the preservation of nationality.

DEMOCRATIZING INFLUENCE.

One of the greatest advantages that our University offers to students is the opportunity of associating with classmates from different provinces, of coming in social contact with their professors, Americans from different States of the United States, and Filipinos from the different provinces of the Archipelago, the result of such an association being an inexhaustible fountain of harmony and tolerance among the student body. The students are not divorced from the affairs of the country, and they show a great desire to be in contact with current opinion.

STUDENTS' IDEALS.

Granting that our students may well take as models for imitation their parents, relatives, and friends, as well as public characters, we have classified the Filipino ideals under those heads with the following results: 19 per cent of students have their parents for their ideals, 12 per cent their friends and relatives,

and 38 per cent public characters. Thus, it is seen that public interest holds the attention of our youth at the expense of the influence of their parents and friends. This fact indicates that a public spirit is developing extensively as well as intensively among our students.

As regards foreign ideals, public characters have a greater influence on our students than religious ones, the proportion being 29 and 2 per cent, respectively.

When we consider the reason given by the students for their Filipino or foreign ideals, it will be seen that 85 per cent give general goodness and moral quality as their reason, 7 per cent social position, 4 per cent personal appearance, and 4 per cent material possessions. These figures seem to imply that general goodness and morality are the fundamental reasons which guide our students, while the other reasons mentioned before exercise a subordinate influence. This shows once more the moral character of the Filipino people. Material possessions as the reason for their choice in their ideals is given by only 4 per cent, which seems to indicate that public characters chosen as ideals were so chosen more for goodness and moral qualities than for their material possessions.

PROFESSIONAL TENDENCIES.

The same table shows the preference of our students for different professions. Business was chosen by 5 per cent; agriculture by 33 per cent; industry by 2 per cent; and liberal professions such as law, medicine, etc., by 51 per cent. It is evident, therefore, that the profession of agriculture is gaining in popularity in our University, while industry and business vocations are merely beginning to attract the students. In this present school year a course in commerce was offered for the first time in the College of Liberal Arts and a preparatory course for industrial engineering in the College of Engineering. We may hope, therefore, that hereafter the University will have a greater number of students in these new branches of learning.

IGNACIO VILLAMOR,

President, University of the Philippines.

APPENDIX.

JAPAN'S EDUCATIONAL DEVELOPMENT.

By IGNACIO VILLAMOR, *President, University of the Philippines.*

In the study of the causes which have contributed to the rapid development and transformation of Japan, the fact that the Japanese people have assimilated the sciences, arts, and industries of Western peoples should be mentioned: they established public schools, organized a system of instruction, founded colleges and universities and adopted American and European methods to the extent that was possible under the special conditions and circumstances of the country. Their experience, therefore, as an oriental people, should be interesting to us, and the study of their educational institutions instructive.

In this monograph I shall summarize my observations on education in that Empire in its different aspects: elementary, special, technical (commerce, industry and agriculture), secondary and university education.

ELEMENTARY EDUCATION.

According to the Japanese system of education, children from their sixth year enter the primary schools to receive for six years an elementary education in morality, Japanese reading and writing, arithmetic, Japanese geography and history, drawing, music, and physical culture. Upon the completion of this elementary education, the students are admitted to the middle schools, to receive secondary education for a period of five years in the following subjects: Morality, Japanese and Chinese literature, one foreign language (English, German, or French), geography, history, mathematics, natural sciences, physics and chemistry, principles of law and economy, drawing, singing and gymnastics.

Moral and military education occupy a great part in the plan of the system of public education in the whole Empire. Education is compulsory during the entire school age, after which the young men enter the active military service for two years and then join the reserves. The method of teaching is essentially objective—to give the children an idea of how a street

car runs and how useful it is, the teachers take them on car rides; they take them to the wharves, railroad stations, etc., to give them an idea of ships and trains. They take them on excursions to commercial establishments, factories, fairs, historic places memorable for their patriotic memorials, or to the monuments of heroes. Thus is kept alive the enthusiasm of the youth for all that is genuinely Japanese. Moreover, special attention is given to military education. From the primary to high school classes, all the pupils perform military drill under the command of a physical instructor. Military discipline is a part of the character of that people, and, thanks to it, everything is done in perfect order. With what respectful attitude a young man approaches an old man! And university students do not pass by a professor without reverently bowing to him, and whenever spoken to, if seated, they rise, taking off the cap which they wear as part of their uniform.

Thanks to this discipline, made vigorous by obedience and the habit of sacrifice which characterizes Japanese society, the principle of authority, which begins with the Emperor and ends with the policemen, is unalterably maintained, and thus their orders are obeyed without protest. To the same civic virtue of the Japanese people, their rapid progress can be traced. For example, when the Mikado, after the bombardments of Shimonoseki and Kagoshima which opened Japan to foreign commerce, made the people understand that the only way for them to be able some day (according to Salas y Ferrer) to face the Western powers was to take hold, by means of constant study, of their sciences, arts, and industries, hundreds of Japanese immediately went to the most powerful countries of Europe and of America to learn their discipline and their methods, particularly military science and tactics, and to observe the working of their institutions. According to Lafcadio Hearn, there were pathetic cases of young men who lost their health and even their lives in their anxiety to equip themselves with higher learning which their mental power could not grasp, and there were beautiful examples of boys and girls who, after earthquakes and panics, used the detached roofs of their ruined homes as slates for their school work, together with pieces of chalk that had fallen down.

What I am going to relate seems insignificant, but it shows the discipline of that people. Frequently, travelers take *jinrikishas*, forming a party of some length. The *kurumaya*, who is at the head, is considered by his companions as the leader and they follow him at all times during the trip. It was strik-

ing to note that not one of them dared to go ahead of another after the march began. If the man in front walks rather slowly, the next one helps him, but never tries to outstrip him. Neither the "sigue" and "carga" of our *cocheros* nor the "impetuousness" of our chauffeurs can be heard or observed there. Thus the *kurumayas* forming the caravan are united, they help each other when necessary, and thus avoid injuries to pedestrians.

Another thing about the *kurumayas*: in railroad stations and public squares it will be observed that they do not try to take away the passengers from one another; the one nearest to the man who needs a *jinrikisha* steps forward and the others leave him alone without snatching away from him the benefit of his work. Thus diligence is rewarded, for naturally the most diligent *kurumayas* who arrive first at the waiting stations occupy the best places.

SPECIAL EDUCATION.

Students who have finished their studies in the middle schools are eligible for admission to special colleges where elementary training in agriculture, commerce, and industry is given. They may also be admitted to the special colleges of art, music, and foreign languages, and even to certain professional colleges of not very high standard.

Without including the military and naval schools, the normal schools, and the high schools for women, there are in Japan special schools of fine arts, music, and foreign languages, and elementary schools of commerce, agriculture, and industry in all its branches.

(a) In speaking of artistic education, it should be noted that what is most remarkable in Japan is the great development of her industrial life. The art of painting gives life to her industries. All the objects of art are painted in one fashion or other. The Japanese are great lovers of painting, particularly in its application to the needs of modern life. By using the objects painted by the Japanese, such as fans, pictures, postal cards, and a thousand other things of this kind, we contribute to the development of Japanese painting.

The Imperial School of Fine Arts offers many things which we should study in connection with our School of Fine Arts. The school is situated in Ueno Park near the imperial museum and the library. In this school complete training is given to those who desire to take up an artistic career, and there is a special course for those who aspire to become teachers of drawing in middle or similar schools, whether public or private.

For artistic professions there are seven departments; Japanese

painting, European painting, sculpture, drawing, modeling, engraving (high and bas-relief) lacquering, lithography, and photography.

The course of study in each department lasts four years, aside from a preparatory course. Only graduates of middle schools are admitted, if they possess the other qualifications required by the regulations. In the school there are 23 professors, 10 assistant professors, 15 lecturers, 3 instructors in athletics, and 6 assistants. There are about 450 students in all the departments. It receives an annual appropriation from the Imperial government for its expenses and obtains money from donations, sales of articles produced by the school, matriculation fees, etc.

How Japanese painting has such an influence on the industrial and commercial development of that country is easy to understand. The Japanese people, being of curious temperament, like to behold the beauties of nature, and for this reason the gardens, parks, museums, cascades, lakes, hills are always full of visitors who observe and imitate everything. One who sees the objects of art there produced cannot but notice that everything is an imitation of nature. Their flowers, their landscapes, their mountains, their historic figures, etc., are reproduced in a thousand ways in fans, kimonos, screens, cups, dishes, vases, tapestries, paintings, etc. The importance given to the study of these subjects is such that there is a department—the department of Japanese painting—which is one of the greatest in the school, where painting with a stamp characteristically Japanese, which cannot be mistaken for any other kind of painting, is taught, and where the main task of the students consists in copying natural plants with their flowers, backgrounds, etc. In the department of sculpture there are models of the great European masters, and students also copy from natural models. In the departments of lithography and photography the school is thoroughly up-to-date. The artistic lacquer articles challenge special attention. Filipinos who have gone there to specialize in this industry have not been able to discover its secret, which is kept with steadfast caution.

In order to turn out good artists, that school does not admit those who have not finished the middle school courses and further requires the completion of regular courses, in order that the proper diploma may be issued. The student in this school, like the attendant of any other center of higher education, wears a university uniform and pursues his studies with the same regularity observed in an industrial school, for example. A stu-

dent registers with the determination of following an artistic profession.

A new policy should be introduced in our School of Fine Arts, giving it a more industrial character, without giving up the desire to turn out great painters. Nature has treasured in the Philippines as many charms and beauties and as many grand and sublime scenes as in the country of the lotus and the chrysanthemum. All that is needed is that our artists should utilize these blessings of Providence, exalting them in their works, creating what we might also call "Filipino painting," in order to awaken the public mind to the things of our soil. Those who are still studying in primary schools should not be admitted to the school, in order not to injure their studies and in order not to impair the efficiency of teaching in the school. It is better to let them first complete their studies in the public schools, at least until the completion of the intermediate course. In this way, those who feel a calling to be artists and wish to enter the School of Fine Arts will have some foundation with which to begin their artistic studies and our school will become a true professional school of artists. During the second semester of the last academic year we had in the school about 800 enrolled students, a sufficiently large number to keep up a nucleus of artists if all follow this career in a regular manner. But the immense majority of those who register in the school are mere amateurs who go there to spend their leisure hours after attending to their more important tasks. They often do not have any preparation whatever, as in the case of children from primary schools, from whom I do not believe we can expect very much, and I do not think they can reflect any credit to the school.

I believe that our professors are just as competent as those of other schools of similar nature, and by increasing their number we would be able to reorganize our school, creating other departments so that all artistic professions might be taught.

The most important step in this reorganization is the construction of buildings. The building in which our school is housed lacks the conditions necessary for the purpose: even for one art museum only, which we ought to have, it is insufficient. The great drawback which we find in trying to improve the condition of our colleges and schools in the University is the lack of adequate buildings.

(b) We will now consider another special school, the Academy of Music, located in Tokyo. This academy is designed not only for the study and teaching of native and foreign music, but

also to prepare music teachers for public schools. There are two courses of study: the principal and the normal courses, the latter being divided into the "A" normal course and "B" normal course. Besides, there are preparatory, post-graduates, and elective courses. The period of study extends from three to five years in the principal courses, three in the "A" normal course, and one in the "B" normal course; two in the preparatory course, from two to three in the post-graduate course, and five in the elective course for one subject.

The subjects given in the different courses of study are as follows:

In the preparatory course: Ethics, singing, music for solo instruments (piano, organ, or violin), elements of music, Japanese, foreign language (English or German), and gymnastics.

There are two departments in the principal course, vocal and instrumental. The subjects given in the vocal department are ethics, singing (solo and choral), piano, harmony, elemental forms of music, history of music, Japanese and foreign language (English or German), and gymnastics.

In the instrumental department: Ethics, music for solo instruments (piano, organ, violin, viola, violoncello, contrabass, flute, oboe, clarinet, bassoon, bombardon, trombone, or trumpet), choral singing, instrumental music (chamber music and orchestral practice), harmony, elementary forms of music, history of music, Japanese, foreign language (English or German), and gymnastics.

The post-graduate course is divided into three departments—the vocal, the instrumental, and the composition departments.

The subjects given in each department are:

Vocal department: Vocal Music (solo and choral singing), piano, foreign language (English or Italian), native and foreign literature, and esthetics.

Instrumental department: Music for solo instruments (piano, organ, violin, viola, violoncello, contrabass, flute, oboe, clarinet, bassoon, bombardon, trombone or trumpet), instrumental music (chamber music and orchestral practice), foreign language (English or German), esthetics, and acoustics.

Composition department: Theory of music, piano or choral singing, foreign language (English or German), native and foreign literature, esthetics, and acoustics.

"A" class normal course: Ethics, singing, music for solo instruments (organ or piano), elements of music, harmony, history of music, pedagogy, method of teaching music, Japanese, English, gymnastics, and games.

"B" class normal course: Ethics, singing, organ, elements

of music, method of teaching singing, Japanese, gymnastics, and games.

About 200 students, a majority of whom are women, are enrolled in the Tokyo Academy of Music. This is the only school in Japan where coeducation is permitted.

It is in things musical where it is observed that the Japanese are not as far advanced as in other studies, but in spite of this one can see the great interest which is being taken in this branch of study. Without abandoning, but, on the contrary, always improving their national airs, they are beginning to familiarize themselves with Italian and German music; in the schools the students are taught Western songs and there are already young men and young women who sing Schumann, Mendelssohn, or Mozart (*Figaro*); or play the compositions of Beethoven, Weber, Schubert, etc., on the piano; or the creations of Berriot, Goddard, Bach, etc., on the violin. I believe that we, the Filipinos, have a more refined hearing while the Japanese have a more developed sight. They have better qualifications as painters than we. But in view of the determination with which the hearing of the Japanese youth is being educated and if we bear in mind the fact that the Japanese people have much of the tenacity of the American character, the day is not far distant when they will compete with us in our musical taste. We must educate with greater care the sight of our youth, so that in time we may compete with the Japanese in their taste in painting. In order to understand the ability of that people as regards music, it should be remembered that they have some military bands and a few orchestras; but what is most remarkable is that although they do not have so excellent musicians as ours, nevertheless, I have been informed by some Japanese that in Japan brass instruments are manufactured. I have seen a sort of pianola made in Japan with which they try, it seems, to improve the Japanese zither. The inventive genius of that people is being developed in an amazing manner, owing, I believe, to the encouragement which is being given to the study of science in the universities and other institutions of learning. Out of their own creation or by imitating the foreigners, they manufacture the most complicated machines. In the Hospital of the College of Medicine of the Imperial University of Tokyo I saw, among other things, two radiograph instruments made in Japan. They also make all their surgical instruments. To us it is of paramount importance to arouse the inventive genius of our people, and for this purpose we should equip our university with all the means of investigation in the different departments.

TECHNICAL COMMERCIAL EDUCATION.

That the study of commerce is widespread in the whole Empire is shown by the number of the commercial schools. In Japan there are five higher commercial schools established by imperial ordinance and supported by the Imperial Government, except that of Osaka, which receives a subsidy from the municipality of Osaka. These schools are found in Tokyo, Kobe, Yamaguchi, Nagasaki, and Osaka.

The "Kobe Higher Commercial School," founded in 1903 by imperial Order No. 98, series of 1902, lies to the east of the city on a hill not far from Nunobiki Waterfall, from which the Tansan factory gets its water supply. This institution, like others of its kind, is under the control of the minister of education and has the same curriculum as that of Tokyo. The school has 14 Japanese professors, 1 assistant professor, 8 lecturers, 5 instructors, and 8 professors of foreign languages. It has 600 students who pay 30 yens for matriculation. It also has eight great buildings, one commercial museum and one large library with 10,500 volumes in Japanese or Chinese and 5,649 volumes in foreign languages.

The "Higher Commercial School of Tokyo" is under the control of a director, advised by a board of councilors. It has 34 professors, 13 assistant professors, and 10 clerks. There are 1,200 students, which number constitutes only one-third of the applicants. The students pay matriculation fees, this being the case with other schools and universities which I have visited. They are admitted after a competitive examination of all applicants who possess the qualifications required by the rules, which qualifications are by no means few.

In order that we may see the difference between these higher commercial schools and our own schools of commerce and the school which we intend to establish in the College of Liberal Arts, I am going to copy the list of the subjects taught there. It is as follows:

In the preparatory course: Commercial ethics, Japanese writing and composition, mathematics, bookkeeping, applied physics, applied chemistry, elementary law, fundamental principles of economics, English, French, Spanish, German, Italian, Chinese, Russian, Korean, and gymnastics. As for the foreign languages, English is obligatory, the others being elective. Of course, in order to be admitted to the preparatory course, one must be a middle school graduate.

For the regular course, the following subjects are given in three years: Commercial ethics, commercial correspondence,

commercial arithmetic, commercial geography, commercial history, bookkeeping, mechanical engineering, commercial products, economics, finance, statistics, private law, insolvency law, administrative commercial law, international law, languages (those of the preparatory course), commercial science, commercial practice, and gymnastics.

Graduates who wish to obtain a higher professional degree have to study the following subjects for two more years: Economics, civil law, commercial law and comparative commercial law, public law, international law, economic conditions of the Orient, history of modern diplomacy, penal law, English and other foreign languages, banking, exchange and communications, insurance, commercial economy, and consular service.

The enumeration of these subjects, together with the fact that in 1906 there were in Japan 52 similar schools, and 14 others of less importance, will show the great emphasis which is given there to commercial studies. By thus cultivating business spirit, that country has formed great merchants who, with the great manufacturers, are daily promoting the progress of Japan. We should establish here schools like those which I have just described, in order to create a business spirit among our youth and to banish the love of government employment which is giving rise to social evils in our midst.

Besides the laboratories and libraries, the school has a great commercial museum which the students visit every day under the direction of the proper professor, who explains to them the objects which they wish to study. In it are arranged and exhibited all the things which are the object of commerce all over the world. All nations are there beautifully represented; the Philippines is the only country that has a very poor representation. Although there are photographs in plenty of Negritos, Igorots, and Moros, yet our products, with the exception of an ordinary stand containing samples of our timber and old tobacco leaves from some cigar factories, are conspicuous by their absence. By merely stating that there are tobacco leaves which are said to be from the Philippines, one span long and of the worst quality, while those of Virginia are four or more spans in length and of very good quality, the whole situation is understood. "But, sir," I told the director of the school, "we have in the Philippines things which you have not here, and our tobacco is much better than any that is here exhibited." "This is all we have been able to collect," he answered kindly. Ah! when we passed by the shelf where the photographs were exhibited I felt such a disagreeable impression that I could not help but exclaim: "So you also have here anthropological objects!"

The director, a very cultured and refined man (he had been educated abroad and had traveled in Europe and America), doubtless understood the meaning of my words and he immediately answered: "This museum is not public like the others; only students enter here and all these objects which you see are only for teaching purposes." "I understand, Mr. Director," I replied, trying to preserve my serenity.

Our hemp raisers, our sugar planters, our tobacco manufacturers, our weavers and embroiderers should send samples of their articles, not only for advertising purposes but also in order that our country may be better known by those who see the museum. Our Bureaus of Forestry and Agriculture should send some duplicates of their exquisite collections. Our Bureau of Education should also send its publications, illustrated with photographs of school buildings and of students, etc. All these things would serve to counteract the bad effect produced by the anthropological photographs, so to speak, which are exhibited in other countries and give rise to many unfavorable impressions as to the culture of the Filipino people.

Among the different departments of the school one's interest is specially aroused by the department of commercial scientific investigation, where all the works on commerce and commercial magazines, articles, statistics, daily reports of the press, etc., are systematically catalogued by subject so that any professor or student who wishes to write on any subject can have all the data which he needs.

TECHNICAL INDUSTRIAL EDUCATION.

Industrial studies are as extensively and intensively given in Japan as commercial courses. In addition to 57 elementary industrial schools in the year 1906, the majority of which were for weaving, there were 30 higher schools of technology, established by prefectures and subprefectures and by some private citizens. The departments usually established in such schools are civil engineering, metal work, shipbuilding, electrical engineering, carpentry, drawing, and decorative arts. Of the 9 colleges of technology maintained by the department of education, the "Higher Technological School of Tokyo" deserves special mention.

The "Higher Technological School of Tokyo" is a model industrial school. It has eight departments—dyeing, weaving, ceramics, applied chemistry, electricity, electrical chemistry, mechanical engineering, and architecture. The course is for three years and one must be a middle-school graduate in order to be admitted to this school. But there are also three-year courses for apprentices, to which those who pass special exam-

ination may be admitted. Here I found four Filipinos: Tomás Prado of Bustos, Bulacan, who is studying ceramics; Tomás Ferrario of Pototan, Occidental Negros; José Solis of Lingayen, Pangasinan; and Antonio Boncan of Manila, who are studying applied chemistry. About 1,000 students attend this school of technology, where all kinds of industries are taught—leather, crystal, porcelain, perfume, etc. But the textile department is worthy of special mention. It has all the necessary machinery, from the cleaning of the cotton, linen, silk, or wool, as the case may be, to its washing and ironing, ready for sale.

As I have said, these industrial schools are the ones that accelerate the progress of that people. The country produces all it needs and more. What they cannot make from their own invention, they imitate from Europeans and Americans, but they are always producing. Only to mention toys, ingenious toys, it is hard to estimate what is produced there. It is not only the great factories that produce, but there are an infinite number of small producers who have graduated from the industrial schools. Their products are so considerable and so varied that it is incredible to understand how they manage to sell them. One wonders in their commercial streets which are filled with stores, restaurants, stands of all kinds, etc., how a market can be found for all. There are no public markets as here, our markets being of cement which cost a great deal. These buildings are not necessary in that country because every business street is a great public market where the purchaser can find anything he wants in the way of victuals, wearing apparel, etc.

In connection with the industrial schools of Japan, the crystal factory of Tomiyama & Co. and the paper factory in Ohji of the Imperial Government should be mentioned. The crystal factory of Tomiyama is the one that fills the orders of our General Hospital and of a number of drug stores in Manila. Once the crystal is prepared, the molding of glasses, bottles, and other articles is a simple process. The sticks are subjected to kilns of high temperature (1,200°) until they become liquid and then the different molds are filled, a hole in the sticks being blown in order to make an open space in the objects that are being manufactured. The work is so simple that children of 10 years are employed with a salary of 7 to 10 sen a day. The factory has five great departments, where more than 600 workers are employed.

The paper factory in Ohji is one of the most important factories of the kind in Japan. I have seen its different departments and observed how rice straw (among other materials used there) undergoes different processes and comes out of the

machinery already converted into writing paper. In this factory all the paper used by the Imperial Government in its different departments and for its official publications is made.

If we are going to produce what we use for food and for clothing, there is need of making our agricultural and industrial education in the public schools more extensive as well as intensive. And as regards the University, we should hasten to establish classes in business in the College of Liberal Arts and to create a department of industry in the College of Engineering. As for the necessary instructors and professors, we should gather the ablest Filipinos who have studied abroad and who are now scattered in the different bureaus doing very secondary work, and give them positions in the College of Engineering or Technology. In Japan, except in the foreign-language courses, all the teachers are Japanese and some of them have been schoolmates of our students in America or in Europe. They are just as young as Dr. Vivencio del Rosario and Messrs. Magsacay, Icasiano, and Hocson.

Leaving for the latter part of this report the agricultural education, let us see something of the higher education.

HIGHER EDUCATION.

To pursue higher studies in agriculture, science, pharmacy, and engineering, and to be admitted to the higher special colleges and to the universities, students are required to graduate from high schools or other colleges where equivalent subjects are taught.

The question as to whether high schools should be considered as designed to prepare students for the universities is one upon which educators have not been able to agree. Here in the Philippines Mr. Crone, former Director of Education, has, on various occasions, expressed the opinion that our high schools are not for the purpose of preparing students for the University, for which reason it was felt necessary to give in our colleges some courses which should probably be taught in the high schools. In Japan the question has been settled in the affirmative. There only the central government can establish and maintain high schools, and the reason given is that in these schools no definite career is completed but that the schools are intended to prepare students for the universities, and, consequently, the number of graduates who can be admitted to the university should be limited. Moreover, the cost of high schools is greater than the local governments can bear, while in private schools the matriculation fees which can be obtained from the students would not be sufficient for their maintenance.

In Japan there are 8 high schools, established in Tokyo, Sendai, Kyoto, Kanasawa, Kumamoto, Okayama, Kagoshima, and Nagoya. The students pay 30 yens per school year.

The duration of the high-school courses is three years, in the three sections preparatory to the following colleges: (1) Law and literature; (2) science, engineering, agriculture, and pharmacy; and (3) medicine.

The first section is intended to prepare students for the College of Law and Literature, and embraces the following subjects: Morals, Japanese and Chinese literature, foreign languages (English, French, and German, Latin being optional), history, logic and psychology, general principles of law, elements of economics, and gymnastics.

The section preparatory to colleges of science, engineering, agriculture, and pharmacy includes the following subjects: Morals, Japanese literature, two foreign languages, mathematics, physics, chemistry, geology and mineralogy, drawing, and gymnastics. Of the foreign languages, English is compulsory, while German or French is elective.

The subjects comprised in the third section, which is preparatory to colleges of medicine are: Morals, Japanese literature, two foreign languages (German is compulsory while French or English is elective), Latin, mathematics, physics, chemistry, zoölogy and botany, and gymnastics.

It is thus seen that the subjects taught in the Japanese high schools are equivalent to the subjects required for the degree of bachelor of arts in our College of Liberal Arts, as those of their middle schools are equivalent to the subjects prescribed in our high schools.

Let us now see the organization of colleges and universities in Japan.

UNIVERSITY EDUCATION.

There are in Japan 5 special colleges of medicine established and maintained by the department of education. Aside from 5 colleges of medicine, 3 being established and maintained by the prefectures of Kyoto, Osaka, and Nagoya and 2 by private citizens in Tokyo and Kumamoto, there are 37 private colleges, making up a total of 42, of which 28 are in Tokyo, 7 in Kyoto, 3 in Osaka, and 1 in each of the cities of Miye, Nagoya, Sendai, and Kumamoto. Of these colleges, many of which are called universities, 5 are devoted to medicine, 9 to law, 3 to law and literature, 9 to literature, and 16 to theology.

Among the 4 imperial universities, those of Tokyo and Kyoto take the lead.

(a) The Imperial University of Tokyo, founded in 1886, has 6 colleges: Law, medicine, engineering, literature, sciences, and agriculture, with 180 professors, 74 assistant professors, and 113 lecturers. The number of students in 1912 totaled as high as 4,984 in all colleges. The university council is made up of the professors and directors of colleges, and is presided over by the president. The faculty is formed by the directors of the different colleges, the professors, and assistant professors.

The following matters are under the jurisdiction of the university council: The establishment and abolition of courses of study in each college; the establishment of new chairs and promulgation of internal regulations for the university; the granting of degrees and settlement of all questions which may be submitted by the minister of education or by the president.

The faculty council has jurisdiction over the following matters: Program of study, examination of students, qualifications of candidates for degrees, and other questions which may be proposed by the minister of education or the president of the university.

The salaries of the Japanese professors in this university are rather moderate, as they also are in the University of Kyoto and other universities and colleges. However, the professors of languages, who are foreigners, are generously compensated. Of course, it is a fact well known that the Japanese professors are underpaid, but they accept a university position because of the honor and social consideration that it carries with it, and especially because they believe that to serve a university or college is to serve the State, and to serve the Japanese State one should be willing to make sacrifices.

The annual appropriation for the university is 1,380,000 yens, in addition to donations and gifts and matriculation fees of 50 yens for every academic year.

The university has at present 81 large buildings—9 for administrative offices, treasury, assembly hall, students' club, gymnasium, and library; 7 for the Colleges of Law and Literature; 12 for the College of Engineering; 9 for the College of Science; 22 for the College of Medicine; and 22 for the College of Agriculture.

Three years of study are prescribed for the different courses, with the exception of the courses in medicine and law, which require four years.

The hospital connected with the College of Medicine and under the supervision of its director, as well as the dispensary and its chief, are under the authority of the president of the university in the same way as they are in Kyoto. There are in the hospital

546 beds for charity patients and 124 beds distributed in 10 wards for pay patients.

As in our own College of Medicine, there are courses in pharmacy, in nursing, and in midwifery.

The following courses are given in the College of Law: Law, political science, political economy, and commerce.

The College of Literature is divided into three courses: Philosophy, history, and literature. The literature course includes the Japanese, Chinese, Sanskrit, English, German, and French literatures, as well as the study of philosophy.

The College of Science gives courses in mathematics, astronomy, theoretical and experimental physics, chemistry, physiology, botany, zoölogy, geology and mineralogy. This college performs a function similar to that of our own Bureau of Science and Weather Bureau.

The College of Engineering gives courses in civil, mechanical, electrical, and mining engineering; in architecture and naval construction; applied chemistry; foundry; metallurgy; and the manufacture of explosives.

The technical aspect of the work of our Bureau of Public Works is done in this college. Graduates of this college and of other colleges like it are the ones responsible for the development of industries in that country by acting as technical experts, as directors of paper, porcelain and glass-ware factories, as well as of textile mills.

The progress made in that country in modern city construction, especially in Tokyo, in ship repairing and building, in railroad building and in the exploitation of mineral resources is all due to the work of these colleges of engineering. A naval exposition was recently held in Tokyo and the objects exhibited there show evidently the result of the studies given in the colleges of engineering. Even the Panama Canal is there reproduced in miniature, with all its details by Japanese engineers, showing the differences in level between the Pacific and the Atlantic Oceans. There was also a diminutive steamboat which ran back and forth through the canal, the movements of which were controlled by an electric button.

The College of Agriculture gives the following courses: Agriculture, agricultural chemistry, forestry, veterinary science, and fish raising. It is thus seen that neither the College of Veterinary Science nor the School of Forestry is independent of the College of Agriculture as we have them here. There are also experimental stations under the supervision of the director of the college besides others which are under the control of the director of the Bureau of Agriculture. All the scientific investi-

gations that are being made by our Bureau of Agriculture are performed there by the College of Agriculture. The Imperial University of Tokyo issues a bulletin prepared by the College of Agriculture in which general information regarding the results of investigation in the cultivation of plants and care of animals and other information necessary for the development of agriculture are published and spread for the benefit of the people.

The College of Agriculture also gives three-year courses for those who have only graduated from the middle schools and who desire to become experts in agriculture, in veterinary science and forestry.

The Bureau of Agriculture is doing a good deal of publicity work, although its special function is the collection of statistics on the development of agriculture, the importation and exportation of agricultural products, quarantine, etc. The important work of this Bureau is the encouragement of agriculture, since agricultural methods are already so well developed in that country. Every available space, even the mountain sides, are cultivated; and the Japanese, on account of the climatic conditions and economic necessities of his country, cultivates the soil industriously without the encouragement that may be given either by the Bureau of Agriculture or by any person. There rinderpest and the locusts are unknown. They also have a good irrigation system. For the cultivation of the fields, the Japanese has hardly any need of the help of animals. Man does everything with his pick and shovel. In my journey, last May, from Nagasaki to Yokohama, a distance of 862 miles, observing both sides of the railroad track, I saw only three bulls and two horses being used in the cultivation of the soil. If we could do the same thing in the Philippines, then we would not need to fear rinderpest and the scarcity of work animals. And if we only had as much as three times the amount of money which is now appropriated for the extermination of destructive insects we could then put an end to the plague of locusts. The farmers' association should send a committee to Japan to study their system of irrigation. I believe that this study would prove beneficial to our country.

(b) The organization of the Imperial University of Kyoto, founded in 1897, is similar to that of Tokyo. It is composed of 5 colleges: Law, medicine, engineering, literature, and science. The College of Law has two departments: the department of law and political science and the department of political economy. The College of Medicine is organized on a plan similar to ours, with schools of nursing, of midwifery, and a hospital. The College of Engineering has five departments: Civil, mechanical,

electrical, mining, industrial chemistry, and metallurgy. The College of Literature is made up of the departments of philosophy, history, and literature. And the College of Science is formed by the departments of mathematics, physics, and chemistry. There is a director in each college, and the directors, together with the oldest professors in each college, form the university council, presided over by the president of the university. There is a committee on finance, composed of the college directors and the directors of the bureau of special schools of the department of education; of the director of the treasury bureau; and of the secretary of the university. The university is governed by the president under the supervision of the minister of education. The president issues regulations for each college, including regulations for the hospital of the College of Medicine. In regard to appointments, promotions, etc., of the higher officers of the university, as the directors and professors, the president makes his recommendation to the minister of education for the issue of the corresponding imperial order. The appointments, promotions, etc., of other employees, are made by the president.

The university has 88 professors, 47 assistant professors, and 59 lecturers. The faculty of each college is made up of the director and professors, although the director may call upon the assistant professors and other lower officers for consultation.

The librarian of the university deserves mention. He is the man in charge of the general library of the university and of the different colleges, which contains about 300,000 volumes. The chief of the hospital of the College of Medicine and the chief pharmacist of the dispensary should also be mentioned. Both of these officers are under the supervision of the president.

The Government appropriates annually 1,100,000 yens for the support of this institution in addition to private donations and the matriculation fees of students. The number of students in 1912 was 1,226. They pay 50 yens as tuition fee for each academic year, which begins on September 11 of each year and ends on July 10 of the succeeding year.

In all the colleges three years are prescribed for the different courses with the exception of the course in medicine, which lasts four years. The preparatory course of one year is required for entrance to all the courses, unless the student has taken preparatory studies in the high school which are equivalent to the ones given in the college he wishes to enter. High grades in the high-school studies are required as one of the conditions for admission into a college of the university.

The university has 61 buildings, many of which are of two

stories. The buildings for the laboratories of anatomy, pathology, chemistry, and hygiene which I visited were excellent. The College of Engineering is completely equipped with all kinds of machinery for teaching purposes. The arrangement of the hospital and its dispensary was admirable. I visited for an hour some departments and wards and became fatigued after having seen only part of it. The director of the hospital informed me that I would need several hours to visit all the departments. The same thing could be said of the hospital under the College of Medicine of the Tokyo Imperial University.

I saw in Nagasaki, Kobe, and Tokyo that the buildings in these great institutions of learning are built of wood on brick foundations. They are buildings *ad hoc*, have plenty of light, are well ventilated, and are not very expensive. We are in need of more buildings for our University, but we cannot afford to construct them, since we are determined to use only cement, which is very expensive. Having, as we have, such woods as molave and others of the first group, why should not the construction of buildings with these materials be authorized? This would also encourage the lumbering industry. With these buildings constructed far apart there would be very little danger from fire. If we are determined to do what now we cannot do, we will be unable to have what we need. It should be noted that many houses in the walled city, built centuries ago of wood, still exist in spite of the inclemency of the weather.

(c) Among the private universities the Keiogijuko and Waseda are worthy of mention. The University of Keio is a private institution and has a different organization from the Imperial University. It was founded in 1858 by the famous Fukusawa, a distinguished writer and statesman, and one of the great educators of Japan. From his system of physical, moral and intellectual education there has been derived a compilation of 29 rules known as the Moral Code of Fukusawa. This university has more than 5,000 students. It has elementary, intermediate, and preparatory classes, courses in commerce and industries, and four professional departments: namely, economics, law, political science, and literature. It has two large dormitories, one for the students of elementary classes and the other for the students of middle classes, about 4,000 students in all. Among its 20 buildings located on the hill which overlooks the bay of Sinagawa, the library and declamation buildings should be mentioned. The administration of the university is in the hands of a committee composed of the president of the university, the secretary, and the treasurer. The general inspection of the university is in the hands of 30 councilors elected among

the graduates of the university, the professors, instructors, and other employees of the university not being eligible. There is an executive committee, formed by the president himself and four members elected by the councilors from their own number. The president is elected by the councilors. His term of office lasts four years, but he may be reëlected. The president has the authority of appointing and discharging professors, instructors, and other employees with the approval of the executive committee. There is, moreover, a chancellor called *Shato* elected by the alumni association from their own membership and a principal, whose main duty is to look out for the prosperity of the institution. The records of this university for the year 1912 show that there were about 2,400 students in the different university departments and 2,300 in the elementary and intermediate classes, and in the courses in commerce and industries.

(d) The University of Waseda, founded in 1882, and supported by Count Okuma, prime minister of the Empire, competes with the Imperial University of Tokyo in importance. In 1913, Waseda had 9,000 students, including the students in the normal school, intermediate classes, and classes in commerce. It has large dormitories for students, and its organization is similar to that of our own University. It has five colleges: Political science and economics, law, literature, commerce, and sciences. There is also a normal school for the training of teachers; in addition, there are preparatory schools for different colleges, and a technical school which has departments of industrial, civil, electrical and mining engineering, as well as architecture. Each college is under the direction of a dean, and the deans, together with the professors appointed by the president of the university, form the faculty council or what we call the university council. The council meets two or more times during the academic year to discuss questions relating to the program of studies, methods of teaching, examinations and other problems of general interest to the different colleges. The president of the university, with the coöperation of the deans and other administrative officers, is responsible for the administration of the institution.

The board of trustees is composed of seven life members and eight others whose terms of office are five years. The vacancies on account of resignation or death are filled by a two-thirds vote of the board. This board meets once a month to settle financial questions, questions of administration and organization, and questions of general interest. The board elects a chairman and executive officers among its own members. These are in charge of the enforcement of the decisions of the Board.

There is a board of inspectors which has the same duties as our own board of visitors. This board is composed of the following members: (a) No more than 30 members recommended by the honorary president, Count Okuma, and the board of trustees among those who have shown deep interest in the university; (b) no more than 20 members elected by the Tokyo Alumni Association among its own members.

The policy which the University of Waseda pursues was expressed at the time of its foundation in the following terms:

The efforts of this academy (its original name) will be directed to prevent the danger of producing so many theorists, dogmatists and dreamers; it will be its constant endeavor to produce a perfect and model citizen who, with full knowledge of theory and its application, possesses an elevated ideal as well as common sense.

In other words, as President Takota recently said:

The object of this institution is the perfection of man and his education in specialized branches of higher knowledge.

As is seen, even in its purposes our University may be compared with that of Waseda, with the only difference that in the latter all instruction is given in the Japanese language. With a few exceptions, its professors are Japanese. In the beginning the instruction was given in foreign languages, but afterwards they found out that the native professors were losing a good deal of time in the study of foreign languages before they could do any research work. Then Count Okuma, the founder of this university, determined to change the method, and attained a complete success. As he says:

The independence of a nation, in its true sense, must have as its base the efficient use of its own language, so that higher studies may be pursued in the vernacular language.

The idea was enthusiastically approved by several professors, who made all efforts to develop the College of Literature and very soon they were able to give instruction in their native tongue.

There is as much attention given to intellectual education as to physical culture. Native as well as foreign games are played among the university students. To develop the character of the students the honor system has been adopted. There are several student organizations established with the help of the university and the professors. For example, the Waseda Society of Public Morality, Bible Class, Religious Association, etc. By means of these associations, the graduates of Waseda have gained the respect of the public.

The spirit of self-sacrifice and devotion to the University

by the professors should be especially mentioned. Many of them have a great reputation in Japan for their knowledge and industry, and although they can easily find better remunerated positions, they, however, prefer to work for the aggrandizement of Waseda, even when their salaries are not commensurate with the value of their work. And to further show their love for their Alma Mater, they contribute to the support of athletic games, social reunions of students, and for similar purposes. They give prizes for scholastic competitions, and many of them support the poor but bright students so that they may continue their studies. Some professors donate books to the university, while others contribute money for their purchase.

In regard to the students, it will be noted that they take pride in keeping their honor unsullied and they see to it that their brothers and companions choose the right path in life. I believe that the university students in Japan are respectful and well disciplined. One can see in their behavior a refined courtesy in manners within the University walls, as well as in the streets and public places. They live modestly on their allowances of 12 yens and on less sometimes. They wear only the University uniform and those who go about in their Japanese costumes (which is also allowed on certain occasions) wear their university cap with its corresponding insignia as a distinctive badge of the university. In this way the students are recognized everywhere they go and are not allowed to go to undesirable places. A certain number of students are under the supervision of an inspector who investigates their moral conduct, honesty, and studiousness and who informs the professor of the results of the investigation. In general, grave offenses in discipline are punished by expulsion. The Japanese students' only amusement is athletics. They do not dance, because nobody dances except the geishas; neither do they go very much to the theater.

If we could introduce among our students the use of a uniform, including both public school pupils and university students, we would be doing a great thing. According to the grade and college, we could select a kind of cloth, suitable to the climate, of the ones woven in different provinces, and all would dress in the same way. In this manner, we would develop a native industry, and at the same time place the students on the same footing, setting aside the differences due to wealth among the students, and foster among them the spirit of democracy; the children of the rich would not misspend the money given to them by their parents, neither would they need to wear expensive shirts, collars, neckties, etc. I feel sure that

this would lower the cost of living of students and that our student body would become better disciplined and thus the parents, both rich and poor, would spend less for their children's education. At present we observe that the children of the wealthy dress extravagantly, and are imitated in this expensive habit by poor students who thus may cause their parents to sell or mortgage what they have, in order to satisfy the whims of youth. With the adoption of a uniform, all these, as well as other evils that need not be mentioned, would be avoided.

College spirit, as well as university spirit, is well developed among the Japanese students. The director of the Higher Technological School of Tokyo, who took me around to the different buildings of the school, pointed out to me the Library Building which was constructed with funds amounting to 120,000 yens donated by graduates of the school. There is one graduate of the school who started as a common commission merchant and who after a time became a shipowner with over 6,000,000 yens worth of property. This man recently donated 150,000 yens to his school for the construction of the building to be used as a students' club. At present there is in construction a laboratory building which will cost 200,000 yens donated by the multi-millionaire Mr. Mitsui. The wealthy people of Japan frequently make donations to universities, colleges, and schools. Some of them establish and support colleges as Count Okuma and Baron Takaki, and for their patriotic liberality they are given titles of nobility, such as baron, viscount, and count, and monuments are erected in their honor.

The custom of making donations to universities and colleges is also widespread in the United States. Recently, "Science" gave an account of a donation of \$7,000,000 made by the millionaire Amos R. Eno to Columbia University. Grinnel College received a \$50,000 donation from an anonymous donor; recently, a parcel of land in Kansas City valued at \$150,000 was donated to a college for the erection of a new dormitory for men; the students of the college also raised funds for the erection of a new declamation building, to cost about \$25,000. There are other donations of the same kind made to American universities, but one more should be mentioned, the donation of a locomotive of 550 tons made by the "Illinois Central Railroad Company" to the University of Illinois, to be used in the instruction of its students and also for the purposes of investigation in its laboratories.

Without attempting to compare our own university with the ones I have described, I believe we may say that in regard to the courses of study we have as complete a program as any of

them. We are in need, however, of more buildings and equipment for laboratories, and for this reason I bespeak the coöperation and interest of the public and of the Government, as well as of the faculties and student body. If we wish to accelerate the advancement of our country we should spend all that we can for the University, firmly convinced that the people will receive abundant benefits. To-day countries prosper through science and the University is and should be the seat of science. The inventions in Japan come from the universities. The four universities I have described have alone turned out since their establishment up to the year 1913, 29,598 graduates from the different faculties (13,141 from the University of Tokyo, 2,928 from the University of Kyoto, 3,500 from the University of Keiogijuku, and 10,029 from the Waseda University) many of whom became leaders in their respective fields of activity, and all have contributed in some way or other to the progress of that country. I hope that the same will happen in the Philippines if we equip our university with adequate laboratories and other means of investigation.

It should be frankly admitted that the University is a part of the system of education of the Government; so much so that many of those who enroll in the high schools do so with the purpose of getting ready for the University. It is true that our graduates receive benefits directly from University education, but it is also true that society as a whole receives in the last analysis a great part of these benefits. Moreover, the University renders direct service to the community in the pursuit of scientific investigations tending to solve local problems concerning education, agriculture, industry and commerce, public health, legislation, government, etc.; aside from the fact that the professors of the university act as scientific advisers of the people to whom they directly communicate the light of knowledge acquired in the laboratories. At the present time the nations that occupy the foremost place in human progress deem it a bounden duty of the State to promote and advance university education as well as elementary education. The same policy should be adopted in the Philippines more rigorously than at present for reasons which must be evident even to the most superficial observer.

